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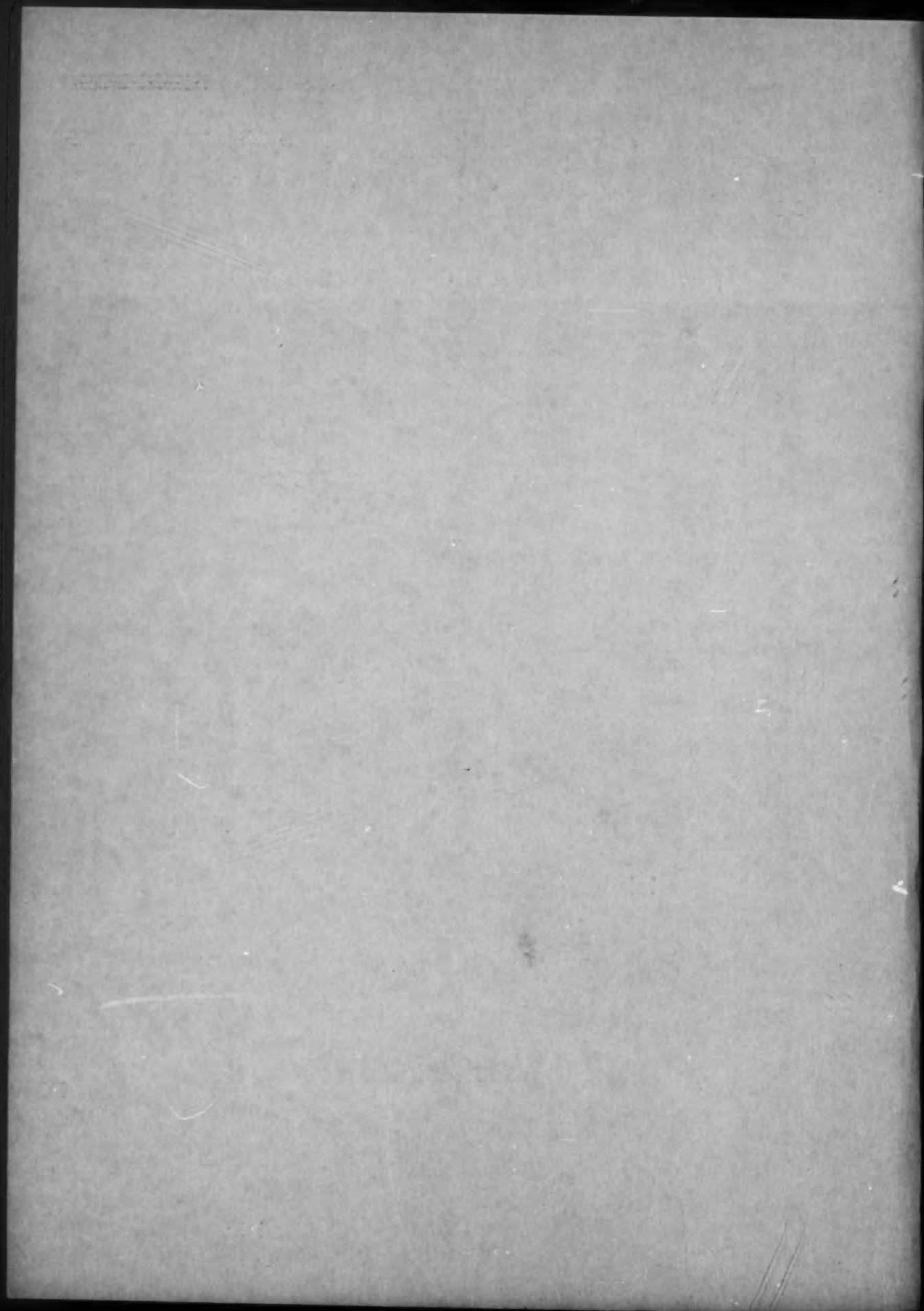
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## SUBJECT CLASSIFICATION

This is a list of headings, with code numbers, under which articles were classified during the first half of 1973. The headings in capital letters are identical with those appearing in the monthly issues.

### 00. GENERAL

- 00 General mathematics
- 04 Collections of papers: Proceedings of conferences of general interest, translation volumes, etc. (See also 01.60)
- 20 General bibliographies
- 30 Dictionaries and other general reference works
- 50 Methodology and philosophy of mathematics

### 01. HISTORY AND BIOGRAPHY

- 01 General histories, source books
- 02 Primitive
- 05 Pre-Greek, Babylonian, Egyptian
- 08 Greek
- 10 Far East
- 12 Islam
- 15 Medieval
- 18 15th and 16th centuries, Renaissance
- 20 17th century
- 25 18th century
- 30 19th century
- 35 20th century
- 40 Contemporary
- 50 Biographies, obituaries, personalia
- 60 Collected or selected works; reprintings or translations of classics

### 02. LOGIC AND FOUNDATIONS

- 10 Classical deductive systems, general
- 12 Propositional calculus, two-valued
- 16 Predicate calculus
- 18 Classical proof theory
- 20 Non-classical logic, general
- 23 Intuitionism
- 25 Many-valued logic
- 27 Modal logic
- 30 Formal syntax and linguistics, general
- 32 High-order languages
- 35 Infinitary languages
- 38 Languages with additional quantifiers
- 40 Algebraic logic, general
- 42 Boolean algebras, lattices, topologies
- 45 Algebra of relations
- 48 Cylindric and polyadic algebras
- 50 Model theory, general
- 52 Semantics and metamathematics, categoricity
- 54 Axiomatics and applications, decision methods
- 57 Non-standard models
- 60 Axiomatic set theory, general
- 63 Formalization of set theory
- 65 Consistency, independence, existence
- 68 Measurability, accessibility, other special questions
- 70 Recursive function theory, general
- 72 Arithmetic and recursive analysis
- 74 Undecidability
- 75 Unsolvability in mathematical systems
- 77 Hierarchies
- 80 Algorithms and machines, general
- 82 Turing, Post, Thue schemes
- 85 Combinatory logic
- 88 Abstract automaton theory (See also 94.40)

### 04. SET THEORY

- 15 Point sets
- 20 Relations (See also 08.20)

### 30 Transfinite numbers

- 40 Descriptive set theory; Borel classifications, Suslin schemes, etc. (See also 28.10)
- 60 Combinatorial (See also 05.04)

### 05. COMBINATORIAL THEORY, GRAPH THEORY

- 04 Combinatorial choice problems; subsets, representatives
- 05 Factorials, binomial coefficients, combinatorial functions
- 10 Combinatorial enumeration problems, generating functions
- 15 Combinatorial inequalities
- 20 Block designs (See also 62.61)
- 22 Difference sets (number-theoretic, group-theoretic, etc.)
- 24 Orthogonal arrays, Latin squares
- 25 Matrices
- 27 Finite geometries (See also 50.60)
- 30 Other designs, configurations
- 35 Matroids, geometric lattices
- 40 Graphs, general theory
- 45 Trees
- 50 Topological graph theory, embedding (See also 55.10)
- 55 Chromatic theory of graphs and maps
- 60 Directed graphs (digraphs)
- 62 Graphs and groups
- 65 Enumeration of graphs and maps

### 06. ORDER, LATTICES, ORDERED ALGEBRAIC STRUCTURES

- 10 Total order
- 20 Partial order
- 30 Lattices, generalizations
- 35 Complemented lattices, generalizations
- 40 Modular lattices, continuous geometries, generalizations
- 50 Distributive lattices, generalizations
- 60 Boolean algebras and rings
- 65 Order topologies (See also 54.56)
- 70 Ordered semigroups, other generalizations of groups
- 75 Ordered groups
- 78 Ordered abelian groups
- 80 Ordered linear spaces (See also 46.06)
- 85 Ordered rings, algebras, modules (See 12.70 for ordered fields)
- 90 Other ordered algebraic structures

### 08. GENERAL MATHEMATICAL SYSTEMS

- 10 Concrete categories, structures (See also 18.10)
- 20 Laws of composition
- 30 Universal algebra, general algebraic structures
- 40 Other

### 10. THEORY OF NUMBERS

- 01 General books
- 02 Tables
- 03 Computations
- 05 Elementary number theory, general
- 06 Congruences, residues
- 07 Special functions and sequences
- 08 Elementary prime number theory
- 09 Expansions and algorithms
- 10 Diophantine equations, general
- 11 Linear and quadratic equations
- 12 Cubic and quartic equations
- 13 Equations of higher degree
- 14 Local ( $p$ -adic) theory
- 15 Forms, general
- 16 Quadratic, Hermitian forms
- 17 Forms of degree  $\geq 3$
- 18 Multilinear forms



- 20 Modular functions and forms, automorphic functions (See also 20.65, 30.49, 32.65)
  - 21 Modular group, modular functions
  - 22 Automorphic forms, one variable
  - 23 Several variables
  - 25 Geometry of numbers
  - 30 Diophantine approximation
  - 31 Linear approximation, continued fractions
  - 32 Algebraicity, irrationality and transcendence
  - 33 Distribution modulo 1, normal numbers
  - 34 Analytic and  $p$ -adic theory
  - 40 Analytic multiplicative theory, general
  - 41 Analytic tools (Zeta- and  $L$ -functions, exponential sums, etc.)
  - 42 Distribution of the integers with specified multiplicative structure (including primes)
  - 43 Number-theoretic functions
  - 45 Analytic additive theory, general
  - 46 Sums of powers, generalizations
  - 47 Additive questions concerning primes
  - 48 Partitions, generating functions
  - 49 Sequences
  - 50 Probabilistic number theory
  - 55 Combinatorial problems in number theory (See also 05.00)
  - 60 Sequences of integers, general
  - 61 Recursive and other special sequences
  - 62 Addition of sequences, basis, essential components, etc.
  - 63 Density of special sequences
  - 64 Sieves
  - 65 Algebraic number theory, general (See also 12.50)
  - 66 Individual algebraic number fields (quadratic, cubic, cyclotomic, Kummer, etc.)
  - 67 Local theory (valuations, finite extensions of  $p$ -adic fields)
  - 68 Class field theory, complex multiplication
  - 69 Arithmetic of general rings
  - 75 Arithmetic theory of algebraic objects
  - 76 Polynomials
  - 77 Finite fields, power series fields
  - 78 Valued fields, algebraic functions fields
  - 79 Matrices
  - 80 Decidability, other logical questions
12. FIELDS AND POLYNOMIALS
  - 10 Division rings (See also 16.46)
  - 20 Finite fields (See also 10.77)
  - 25 Polynomials over finite fields
  - 30 Polynomials
  - 40 Galois theory (See also 12.80, 13.70, 16.70)
  - 45 Algebraic extension fields
  - 50 Algebraic number fields (See also 10.65)
  - 70 Valuations, topological fields, ordered fields (See also 10.78, 13.98)
  - 75 Transcendental extension fields
  - 78 Algebraic function fields (See also 10.78, 14.35)
  - 80 Differential and difference algebra; differential Galois theory
13. COMMUTATIVE ASSOCIATIVE RINGS AND ALGEBRAS  
(See also 16.00)
  - 10 General theory
  - 15 Integral domains, unique factorization domains
  - 20 Ideal theory
  - 25 Chain conditions; Artinian rings, Noetherian rings
  - 30 Radical theory
  - 40 Modules, representation
  - 50 Structure, classification
  - 60 Automorphisms, derivations
  - 70 Galois theory
  - 80 Extension theory
  - 90 Homological methods
  - 93 Rings of polynomials, formal power series
  - 95 Local rings
  - 98 Valuations (See also 12.70)
14. ALGEBRAIC GEOMETRY
  - 01 Algebraic varieties in real and complex spaces, classical algebraic geometry
  - 05 Algebraic geometry over abstract fields and rings, general
  - 08 Foundational questions
  - 10 Theories of equivalence
  - 15 Transformations and correspondences
  - 18 Singularities
  - 20 Algebraic curves, surfaces and spaces
  - 35 Algebraic function fields (See also 10.78, 12.78)
  - 40 Arithmetic properties of varieties
  - 45 Rationality questions
  - 47 Weil conjectures, Riemann hypotheses
  - 48 Zeta functions for varieties (including mod  $p$  questions)
  - 49 Geometric analogues of arithmetic questions
  - 50 Group varieties (algebraic groups), abstract analytic groups
  - 51 Abelian varieties
  - 52 Abstract derivations and differentials
  - 55 Sheaf-theoretic and homological methods
15. LINEAR AND MULTILINEAR ALGEBRA, MATRIX THEORY
  - 05 Vector spaces, linear dependence, rank
  - 10 Linear equations
  - 15 Matrix inversion, generalized inverses
  - 20 Determinants, permanents, other special matrix functions
  - 25 Eigenvalues and eigenvectors
  - 30 Canonical forms, reductions, classification
  - 35 Matrix equations and identities
  - 38 Commutativity
  - 40 Algebraic systems of matrices (See also 16.48, 20.75)
  - 45 Matrices over special rings (quaternions, finite fields, etc.)
  - 48 Matrices of integers (See also 10.79)
  - 50 Linear inequalities
  - 55 Inequalities involving eigenvalues and eigenvectors
  - 58 Miscellaneous inequalities involving matrices
  - 60 Positive matrices
  - 65 Stochastic matrices
  - 70 Quadratic and bilinear forms, inner products
  - 75 Clifford algebras
  - 80 Multilinear algebra, tensor products
  - 85 Vector and tensor algebra, theory of invariants
  - 90 Exterior algebra, Grassman algebras
16. ASSOCIATIVE RINGS AND ALGEBRAS (See also 13.00)
  - 10 General theory
  - 15 Integral domains, unique factorization domains (non-commutative)
  - 20 Ideal theory
  - 25 Chain conditions; Artinian rings, Noetherian rings
  - 30 Radical theory
  - 32 Nil, nilpotent, radical rings
  - 40 Modules, representation
  - 42 Primitive rings
  - 44 Semisimple rings
  - 46 Simple rings, division rings
  - 48 Matrix rings
  - 49 Rings with polynomial identity
  - 50 Structure, classification
  - 53 Prime rings
  - 55 Rings with annihilator conditions
  - 56 Regular rings
  - 58 Rings with involution
  - 60 Automorphisms, derivations
  - 70 Galois theory
  - 80 Extension theory
  - 90 Homological methods
  - 94 Finite rings
  - 96 Semirings, other generalizations of rings (See also 08.00)
  - 98 Topological rings

17. NONASSOCIATIVE RINGS AND ALGEBRAS

- 10 General
- 20 Power associative
- 30 Lie (See also 22.80)
- 40 Jordan
- 50 Alternative
- 60 Other

18. CATEGORY THEORY, HOMOLOGICAL ALGEBRA

- 10 Abstract categories and functors (See also 08.10)
- 15 Abelian categories
- 20 Homological algebra

20. GROUP THEORY AND GENERALIZATIONS

- 08 Varieties of groups
- 10 Group presentations; free groups, generators, relations
- 15 Periodic groups
- 18 Groups with local properties
- 20 Groups acting on sets, permutation groups
- 22 Automorphism groups
- 25 Finite group theory
- 27 Structure of groups, classification
- 29 Simple groups
- 30 Abelian groups
- 40 Nilpotent, solvable,  $p$ -groups
- 43 Sylow subgroups,  $\Pi$ -subgroups
- 48 Group extensions
- 50 Homological methods in group theory
- 51 Limits of systems of groups
- 52 General products of groups (including semi-direct, wreath, free, amalgamated)
- 54 Special subgroups
- 56 Series of subgroups
- 58 Lattices of subgroups
- 60 Crystallographic and discrete geometric groups
- 65 Modular groups, discrete subgroups of classical groups
- 70 Classical groups (See also 22.55)
- 72 Collineation groups
- 75 Linear groups, general (See also 14.50)
- 80 Representations, characters, group algebras
- 85 Representations of symmetric groups
- 90 Semigroup algebras, representations, characters
- 92 Semigroups, general theory (See also 06.70)
- 93 Semigroups, structure and classification
- 95 Other binary systems; groupoids, quasigroups, loops
- 97 Ternary systems; heaps, semiheaps, heapoids
- 98  $n$ -ary systems (See also 08.00)

22. TOPOLOGICAL GROUPS AND LIE THEORY

- 05 Topological semigroups and other generalizations of groups
- 10 Topological groups
- 20 Locally compact groups (See also 28.75 for Haar measure, 42.50 for LCA groups)
- 40 Transformation groups (See also 54.80, 54.82, 57.47)
- 50 Lie groups
- 55 Classical groups (See also 14.50, 20.70)
- 57 Representations and analysis of classical groups (See also 81.22)
- 60 Representations and analysis, general
- 65 Harmonic analysis on non-abelian groups (See 42.50 for LCA groups)
- 70 Homogeneous spaces, symmetric spaces (See also 53.66, 53.73, 57.45)
- 80 Lie algebras of Lie groups (See also 17.30)
- 90 Other Lie theory

26. FUNCTIONS OF REAL VARIABLES

- 10 Foundations: limits and generalizations, elementary topology of the line

26 Calculus

- 21 Elementary functions
- 30 Continuity and related questions (modulus of continuity, semicontinuity, discontinuities, etc.)
- 35 Classification of real functions; Baire classification of sets and functions (See also 28.00)
- 40 Differentiation, general theory; mean-value theorems (See also 28.16)
- 41 Non-differentiability (non-differentiable functions, points of non-differentiability), discontinuous derivatives
- 43 Generalized derivatives, derivatives of fractional order
- 44 Antidifferentiation
- 45 Denjoy integral, other special integrals
- 46 Integrals of Riemann, Stieltjes and Lebesgue type (See also 28.00)
- 49 Functions of bounded variation, generalizations
- 50 Monotonic functions, generalizations
- 52 Convexity, generalizations
- 54 Fixed-point theorems
- 55 Several variables, implicit function theorems, Jacobians, transformations with several variables
- 56 Length, area, volume
- 60 Polynomials
- 70 Inequalities (of a general and miscellaneous character)
- 80 Real-analytic functions,  $C^\infty$  functions

28. MEASURE AND INTEGRATION

- 10 Classes of sets (Borel fields,  $\sigma$ -rings, etc.), measurable sets, Suslin sets, analytic sets (See also 04.40)
- 13 Real- or complex-valued set functions, contents, measures, outer measures, capacities, etc.
- 16 Abstract differentiation theory, differentiation of set functions (See also 26.40)
- 20 Measurable and non-measurable functions; modes of convergence
- 25 Integration with respect to measures and other set functions
- 30 Integration theory via linear functionals (Radon measures, Daniell integrals, etc.)
- 40 Measures and integrals in product spaces
- 46 Measures and integrals in function spaces, linear spaces; Wiener measure
- 50 Vector-valued measures and integrals, integration of vector-valued functions
- 55 Integration and disintegration of measures, lifting theory
- 60 Measures and integrals with values in general ordered systems
- 65 Measures on Boolean rings, measure algebras
- 70 Measure-preserving transformations, flows (dynamical systems), ergodic theory
- 75 Invariant measures, Haar measure (See also 22.20)
- 80 Length, area, volume; other geometric measure theory

30. FUNCTIONS OF A COMPLEX VARIABLE

- 01 General questions, foundations
- 02 Monogenic properties of complex functions (also polygenic and arcular monogenic functions)
- 09 Inequalities in the complex domain
- 10 Polynomials
- 11 Zeros of polynomials
- 20 Power series
- 21 Behavior on the boundary of convergence. Overconvergence
- 24 Dirichlet series
- 25 Continued fractions
- 28 Analytic continuation
- 30 Sequences and series of analytic functions; uniform convergence, normal families, normal functions
- 35 Integration; integral representations; Cauchy integral, Poisson and Poisson-Stieltjes integrals
- 36 Moment problems; interpolation problems
- 40 Conformal mapping, general theory
- 41 Capacity, harmonic measure
- 42 Univalent functions

- 43 Coefficient problems
  - 44 Multivalent functions
  - 45 Riemann surfaces, uniformization
  - 46 Algebraic functions, Abelian integrals
  - 47 Quasiconformal mapping
  - 49 Automorphic functions and modular functions
  - 50 Maximum principle. Schwarz's lemma, Phragmén-Lindelöf theorems
  - 52 Extremal problems in the complex domain
  - 55 Entire functions, general theory
  - 56 Entire functions, representation by Dirichlet series
  - 57 Entire functions, growth estimates
  - 58 Entire functions, distribution of values
  - 60 Meromorphic functions, general theory
  - 61 Distribution of values, Picard-type theorems, Nevanlinna theory, defect (deficiency) theory
  - 62 Theory of cluster sets, prime ends, boundary behavior
  - 65 Bounded functions, positive real part, Blaschke products
  - 66 Bounded mean modulus, bounded characteristic
  - 67  $H_p$  classes and other restrictions
  - 70 Approximation by polynomials and rational functions in the complex domain
  - 75 Boundary value problems, Dirichlet problem
  - 77 Special boundary value problems; Riemann-Hilbert problem. Inverse boundary problems
  - 79 Algebroidal functions
  - 80 Topological function theory, functions topologically equivalent to analytic mappings
  - 81 Generalized analytic mappings. Pseudo-analytic functions of Bers, Vekua, etc.
  - 83 Functions of hypercomplex variables and generalized variables (See also 32.80)
  - 85 Spaces of analytic functions (See also 46.30)
  - 86 Kernel function and applications
  - 87 Algebras of analytic functions (See also 46.55)
31. POTENTIAL THEORY
- 10 Harmonic functions in the plane
  - 11 Harmonic functions, general
  - 15 Subharmonic, superharmonic functions
  - 20 Boundary value problems, Dirichlet problem
  - 21 Capacity and harmonic measure
  - 22 Generalized capacity and potential
  - 30 Biharmonic and polyharmonic functions and equations
  - 35 Poisson's equation
  - 50 Axiomatic potential theory
32. SEVERAL COMPLEX VARIABLES
- 02 Foundations, general questions
  - 05 Polynomials, entire functions
  - 10 Power series, formal theory
  - 15 Integral representations
  - 17 Inequalities
  - 20 Domains of holomorphy
  - 22 Pseudoconvexity
  - 25 Local properties of holomorphic functions
  - 27 Removable singularities
  - 32 Complex symmetric spaces
  - 35 Bergman kernel function
  - 40 Analytic manifolds
  - 44 Analytic varieties
  - 47 Analytic spaces
  - 49 Stein spaces
  - 50 Analytic sheaves and cohomology theory
  - 60 Holomorphic mappings
  - 65 Automorphic functions
  - 70 Approximation theorems
  - 80 Nonarchimedean function theory
33. SPECIAL FUNCTIONS
- 04 Number-theoretic functions, special sequences
  - 10 Exponential and trigonometric functions
  - 15 Gamma and beta functions
  - 17 Error function, probability integral
  - 19 Elliptic functions and integrals
  - 20 Hypergeometric functions, generalizations
  - 21  $E$ -functions,  $G$ -functions
  - 25 Cylindrical functions; Bessel functions
  - 27 Spherical functions; Legendre polynomials and functions, spherical harmonics, ultraspherical polynomials
  - 28 Lamé, Mathieu, spheroidal wave functions
  - 30 Wave functions
  - 32 Gegenbauer functions
  - 40 Orthogonal special functions and polynomials (Čebyšev, Hermite, Jacobi, Laguerre, etc.) (See also 42.15)
  - 45 Other special functions
  - 50 Special functions and Lie groups
34. ORDINARY DIFFERENTIAL EQUATIONS
- 02 Solutions in closed form; integration by quadratures; reduction of differential equations
  - 04 General existence and uniqueness theorems; continuous dependence of solution on parameter, initial and boundary conditions
  - 06 Differential equations in the complex domain
  - 10 Analytical theory: series, transformations, transforms, operational calculus, etc.
  - 20 Linear equations and systems, general
  - 30 Boundary value problems for linear equations: spectral theory, asymptotic behavior of eigenfunctions, distribution of eigenvalues (See also 47.60)
  - 36 Nonlinear and multi-point boundary value problems
  - 40 Qualitative theory, general
  - 41 Limit cycles, singular points
  - 42 Zeros, growth, oscillation and comparison of solutions
  - 45 Nonlinear oscillations, periodic and almost periodic solutions, integral manifolds, averaging method
  - 50 Asymptotic expansions, asymptotic behavior of solutions, turning points
  - 51 Stability
  - 53 Perturbations
  - 54 Singular perturbations; small parameter with highest derivative
  - 60 Equations and systems with randomness (See 60.75 for stochastic differential equations)
  - 65 Dynamical systems, systems on manifolds
  - 70 Differential equations of infinite order
  - 75 Functional differential equations: differential-difference equations, equations with retarded argument
  - 85 Optimal control problems
  - 90 Differential inequalities
  - 95 Differential equations in Banach and other abstract spaces
35. PARTIAL DIFFERENTIAL EQUATIONS
- 01 Existence and uniqueness theorems, general
  - 02 Successive approximations
  - 03 Cauchy-Kowalewski theorems, series solutions
  - 04 Variational methods, a priori estimates
  - 05 Analytic methods; singularities
  - 06 Other special methods
  - 07 Dependence of solutions on initial and boundary data, parameters
  - 09 Geometric theory, characteristics, transformations
  - 10 Qualitative theory, general
  - 11 Comparison theorems; oscillation, zeros and growth of solutions
  - 12 Periodic solutions
  - 13 Perturbations
  - 14 Singular perturbations, almost periodic solutions
  - 15 Stability and control, boundedness
  - 16 Asymptotic behavior of solutions
  - 19 Differential inequalities; a priori estimates
  - 20 Generalized solutions



# SUBJECT CLASSIFICATION

- 21 Embedding theorems, Sobolev spaces (See also 46.38)
- 23 Pseudodifferential operators (See also 47.65)
- 24 Regularity of generalized solutions
- 30 Linear equations and systems, first order
- 31 Linear equations and systems, higher order
- 35 Nonlinear equations and systems, first order
- 36 Nonlinear equations and systems, higher order
- 37 Cauchy problems
- 38 Discontinuous coefficients or data
- 39 Equations and systems with constant coefficients
- 42 Second order elliptic equations
- 43 Higher order elliptic equations
- 44 Elliptic systems (linear or nonlinear)
- 45 Boundary value problems for elliptic equations
- 46 Boundary value problems for elliptic systems
- 47 Quasilinear elliptic equations and systems
- 48 Hypoelliptic equations and systems
- 52 Second order hyperbolic equations
- 53 Hyperbolic systems, hyperbolic equations of higher order
- 55 Boundary value problems for hyperbolic equations and systems
- 57 Quasilinear hyperbolic equations and systems
- 62 Second order parabolic equations
- 63 Parabolic systems, parabolic equations of higher order
- 65 Boundary value problems for parabolic equations and systems
- 70 Equations and systems of mixed type (boundary value problems, etc.)
- 75 Laplace's equation, reduced wave equation, Poisson's equation
- 76 Wave equation
- 77 Schrödinger equation
- 78 Heat equation
- 79 Other special equations and problems
- 80 Eigenvalue problems, spectral theory, eigenfunction expansions (See also 47.65)
- 88 Difference-partial differential equations; equations with time lag
- 95 Operator equations, general (See also 34.95)
- 96 Equations on manifolds
- 97 Equations in function spaces
- 39. FINITE DIFFERENCES AND FUNCTIONAL EQUATIONS
  - 10 Finite differences, general
  - 20 Difference equations (See also 65.70)
  - 30 Functional equations, general
  - 31 Classical functional equations
  - 33 Linear and multilinear functional equations
  - 35 Functional equations in several variables, systems
  - 37 Matrix functional equations
  - 38 Functional equations on abstract structures
- 40. SEQUENCES, SERIES, SUMMABILITY
  - 10 Series and sequences of numbers, general
  - 11 Infinite products
  - 12 Continued fractions
  - 13 Convergence and divergence
  - 15 Multiple series and sequences
  - 20 Sequences and series of functions, convergence
  - 30 Summability, general methods
  - 31 Summability, matrix methods
  - 32 Cesàro summability
  - 33 Abel, Poisson summability
  - 35 Summability of double series
  - 40 Convergence and summability of integrals
  - 42 Tauberian theorems
  - 46 Functional-analytic methods in summability theory
  - 50 Summability in topological groups, linear spaces, etc.
- 41. APPROXIMATIONS AND EXPANSIONS
  - 10 Interpolation
  - 15 Polynomial approximation (See also 30.70)
  - 17 Approximation by rational functions (See also 30.70)

- 30 Approximation by other special function classes
- 35 Approximation by operators (in particular, by integral operators)
- 40 Best approximation
- 41 Degree of approximation, rate of convergence
- 44 Approximate quadratures
- 50 Asymptotic expansions
- 55 Constructive theory of functions
- 60 Abstract approximation theory; approximation in normed linear spaces and other abstract spaces
- 42. FOURIER ANALYSIS
  - 05 Trigonometric polynomials
  - 06 Best approximation by trigonometric polynomials
  - 08 Trigonometric interpolation
  - 10 Fourier coefficients
  - 11 Convergence of Fourier series
  - 12 Absolute convergence of Fourier series
  - 15 Orthogonal functions and polynomials, general (See also 33.40)
  - 16 Expansions in orthogonal functions and polynomials
  - 17 Completeness of sets of orthogonal functions
  - 18 Completeness, closure, spectral synthesis
  - 20 Summability of Fourier and generalized Fourier expansions
  - 25 Fourier transform
  - 26 Other Fourier-type transforms
  - 27 Trigonometric moment problems
  - 30 Almost periodic functions
  - 35 Positive definite functions
  - 40 Multiple Fourier series and integrals
  - 50 Abstract harmonic analysis (Fourier analysis on LCA groups) (See also 22.65)
  - 51 Characters, duality
  - 52 Fourier-Stieltjes transform
  - 54 Positive definite functions on LCA groups
  - 55 Convolution, factorization
  - 56 Measure algebras, group algebras (See also 46.80)
  - 58 Ideals, spectral synthesis
- 44. INTEGRAL TRANSFORMS, OPERATIONAL CALCULUS
  - 10 Laplace transform
  - 25 Convolution
  - 28 General transforms
  - 30 Special transforms: Legendre, Hilbert, etc. (See also 45.33)
  - 32 Multiple transforms
  - 33 Transforms of special functions
  - 40 Operational calculus
  - 42 Operational calculus in several variables
  - 50 Fractional integrals (See also 26.43)
  - 60 Moment problems (See also 42.27)
- 45. INTEGRAL EQUATIONS
  - 10 Linear integral equations, general (See also 47.70)
  - 11 Fredholm equations
  - 12 Eigenvalue problems
  - 13 Volterra equations
  - 15 Singular equations
  - 20 Systems of linear equations
  - 30 Nonlinear integral equations (See also 47.80)
  - 31 Singular nonlinear equations
  - 33 Miscellaneous special kernels (See also 44.30)
  - 40 Integro-differential equations, ordinary
  - 45 Integro-partial differential equations
- 46. FUNCTIONAL ANALYSIS
  - 01 Topological linear spaces
  - 06 Ordered TLS; vector lattices
  - 10 Normed linear spaces, Banach spaces
  - 15 Inner product spaces, Hilbert spaces, spaces with an indefinite metric
  - 20 Other special spaces
  - 25 Spaces of continuous functions

- 30 Spaces of differentiable and analytic functions
- 35 Spaces of measurable functions;  $L^p$  spaces, Orlicz spaces
- 38 Sobolev spaces, embedding theorems, interpolation spaces (See also 35.21, 47.65)
- 40 Distributions, generalized functions
- 45 Derivatives and differentials in abstract spaces
- 50 Topological algebras, normed rings and algebras, Banach algebras: general theory
- 55 Commutative Banach algebras; function algebras
- 60 Rings and algebras with an involution,  $\ast$ -algebras: general theory
- 65 Rings and algebras of operators (with or without involution);  $C^\ast$ -algebras, von Neumann algebras
- 80 Group algebras, convolution algebras (See also 22.65, 42.56)
- 90 Miscellaneous applications of functional analysis
- 47. OPERATOR THEORY
  - 10 Single linear operators, general theory
  - 20 Operators in ordered spaces
  - 25 Operators in function spaces and other special spaces (See also 28.70)
  - 30 Spectral theory, functional calculus
  - 35 Reducibility, invariant subspaces
  - 40 Structure, classification, canonical forms
  - 45 Compact (completely continuous) operators
  - 48 Perturbation theory
  - 50 Semigroups and groups of operators
  - 55 Other systems of operators (See also 46.65)
  - 60 Ordinary differential operators (See also 34.30)
  - 65 Partial differential operators (See also 35.80)
  - 70 Integral and integro-differential operators
  - 80 Nonlinear operators, general theory
  - 85 Fixed-point theorems (See also 54.85)
  - 90 Miscellaneous applications
- 49. CALCULUS OF VARIATIONS, OPTIMAL CONTROL (See also 93.40)
- 50. GEOMETRY (See also 14.00)
  - 05 Foundations
  - 10 Euclidean
  - 14 Constructions
  - 20 Affine geometry, general
  - 25 Transformations
  - 30 Projective geometry, general
  - 35 Transformations
  - 38 Second-order loci
  - 40 Non-Euclidean geometry (i.e. hyperbolic or elliptic)
  - 48 Special geometries
  - 60 Finite geometries (See also 05.27)
  - 70 Projective planes
  - 90 Regular figures, divisions of space (See also 52.00)
- 52. CONVEX SETS AND GEOMETRIC INEQUALITIES
  - 10 Convex polyhedra
  - 25 Convex curves
  - 30 Convex regions
  - 34 Helly-type theorems
  - 40 Extremum problems and geometric inequalities
  - 45 Packing and covering (See also 50.90)
  - 50 Distance geometries
- 53. DIFFERENTIAL GEOMETRY
  - 01 Curves and surfaces in Euclidean spaces
  - 04 Minimal surfaces
  - 10 Affine differential geometry
  - 20 Projective differential geometry
  - 23 Differential line geometry
  - 25 Conformal differential geometry
  - 30 Non-Euclidean differential geometry
  - 32 Other special differential geometries
- 35 Vector and tensor analysis
- 38 Spinor analysis
- 40 Differentiable manifolds (general theory), e.g., definitions, jets, tangent bundles (See also 57.30)
- 42 Differential invariants (local theory), geometric objects
- 45 Differential calculus (global theory); forms, currents, integration, tensor fields, etc. (See also 57.50)
- 50 Connections, general
- 52  $G$ -structures
- 55 Affine connections
- 60 Projective connections
- 66 Homogeneous manifolds (See also 22.70, 57.45)
- 70 Local Riemannian geometry
- 72 Riemannian manifolds
- 73 Symmetric spaces (See also 22.70, 57.45)
- 74 Submanifolds, isometric imbeddings (See also 57.20)
- 75 Global surface theory (convex surfaces)
- 78 Lorentz metrics and generalizations
- 80 Hermitian and Kählerian structures (See also 32.00, 57.60)
- 85 Finsler spaces and generalizations (areal metrics)
- 90 Integral geometry
- 95 Direct methods ( $G$ -spaces of Busemann), geometric orders
- 99 Other generalizations
- 54. GENERAL TOPOLOGY
  - 10 Axiomatics; generalizations of topological spaces, syntopogenous spaces
  - 20 Topological spaces, general
  - 22 Convergence notions
  - 23 Separation axioms,  $T_i$ -spaces
  - 25 General constructs (products, quotients, limits, etc.)
  - 28 Function spaces
  - 30 Uniform structures, proximity spaces
  - 35 Metric spaces, metrizability
  - 38 Moore spaces
  - 40 Countability conditions, separability, Lindelöf spaces
  - 50 Paracompact spaces
  - 52 Compactness, local compactness, generalizations
  - 53 Compactifications, other extensions
  - 55 Connectedness, continua
  - 56 Ordered topological spaces (See also 06.65)
  - 60 Mappings
  - 65 Set-valued mappings
  - 70 Dimension theory (See also 55.38)
  - 75 Topology of  $E_n$ , 2-manifolds
  - 78 Topology of  $E_n$ ,  $n$ -manifolds ( $n > 2$ )
  - 80 Transformation groups and semigroups (See also 22.40)
  - 82 Topological dynamics
  - 85 Fixed-point theorems, coincidence theorems, etc. (See also 47.85)
- 55. ALGEBRAIC TOPOLOGY
  - 10 Graphs, map-coloring (See also 05.40)
  - 20 Knots, links (See also 57.20)
  - 25 Cell-complexes, simplicial complexes
  - 30 Homology and cohomology theories;  $K$ -theory
  - 32 Sheaves
  - 34 Cohomology operations, Steenrod algebra
  - 36 Periodic transformations, fixed points, coincidences (Smith theory)
  - 38 Dimension theory (See also 54.70)
  - 40 Homotopy theory, general
  - 42 Algebra of mappings (including cohomotopy groups)
  - 45 Computation of homotopy groups
  - 50 Fiber spaces (See also 57.30)
  - 52 Spectral sequences
  - 60 Manifolds (See also 53.40, 54.78, 57.01)
  - 66 Generalized manifolds, local homology
  - 68 Homotopy manifolds
  - 70 Imbedding, immersion (See also 57.20)

# SUBJECT CLASSIFICATION

## 57. TOPOLOGY AND GEOMETRY OF MANIFOLDS

- 01 Topological manifolds, combinatorial manifolds (See also 55.80)
- 05 Geometric topology
- 10 Differentiable structures, cobordism
- 20 Differentiable mappings, imbeddings, immersions, diffeomorphisms (See also 53.74, 55.70)
- 30 Fiber bundles, vector bundles (See also 53.40, 55.50)
- 31 Topology of differentiable manifolds (See also 54.78)
- 32 Characteristic classes
- 34 Topology of vector and tensor fields
- 36 Foliations (See also 34.65)
- 40 Topology of Lie groups
- 45 Topology of homogeneous spaces (See also 22.70, 53.66, 53.73)
- 47 Transformation groups (See also 22.40, 54.80)
- 50 Analysis on differentiable manifolds (See also 53.72)
- 55 Infinite-dimensional manifolds
- 60 Complex manifolds (See also 32.00, 53.80)
- 70 Infinite Lie groups, deformations

## 60. PROBABILITY

- 02 Axioms, foundations
- 05 Probabilistic measure theory
- 08 Probability in topological groups, other structures
- 10 Combinatorial probability
- 15 Geometric probability
- 20 Distributions, characteristic functions
- 30 Limit theorems
- 40 Stochastic processes, general theory
- 50 Stationary processes
- 60 Markov processes, general
- 62 Hunt processes, diffusion processes, Brownian motion, probabilistic potential theory
- 65 Markov chains
- 66 Random walks
- 67 Branching processes; Galton-Watson, birth-and-death processes
- 69 Other special processes
- 70 Renewal theory
- 75 Stochastic differential and integral equations
- 80 Queueing, congestion, allocation, storage
- 90 Other applications

## 62. STATISTICS

- 05 Foundations: axiomatics, sufficiency, invariance, other general considerations
- 10 Distribution theory
- 15 Asymptotic theory
- 16 Exact and asymptotic efficiency
- 20 Estimation: parametric case
- 25 Hypothesis testing: parametric case
- 30 Decision theory
- 31 Ranking and selection
- 35 Bayesian inference
- 40 Multivariate analysis
- 41 Classification and discrimination
- 45 Sequential methods
- 50 Information-theoretic methods
- 55 Linear statistical inference, regression analysis
- 56 Analysis of variance; hierarchical models
- 60 Design and analysis of experiments, general
- 61 Construction of designs (See also 05.20)
- 62 Optimal designs
- 63 Factorial designs
- 64 Paired and multiple comparisons
- 70 Non-parametric methods
- 71 Goodness-of-fit tests
- 75 Order statistics
- 80 Engineering statistics; life testing and reliability, quality control
- 85 Statistical analysis of stochastic processes; time series

- 90 Sample surveys
- 95 Count data, contingency tables
- 97 Biometrics
- 99 Other applications

## 65. NUMERICAL METHODS

- 05 Tables, construction of tables
- 10 General mathematical methods; iteration, acceleration of convergence, numerical experiments
- 15 Monte Carlo methods
- 20 Interpolation, smoothing, least squares, curve fitting, approximation of functions
- 25 Computation of special functions, series, integrals
- 30 Mathematical programming and optimization techniques
- 33 Linear inequalities
- 35 Linear equations, determinants, matrices
- 40 Eigenvalues, eigenvectors
- 50 Solution of algebraic and transcendental equations and systems
- 55 Numerical differentiation and integration, quadrature, cubature, etc.
- 60 Ordinary differential equations, general
- 61 Initial value problems
- 62 Boundary value problems
- 65 Partial differential equations, general
- 66 Elliptic equations
- 67 Hyperbolic equations
- 68 Parabolic equations
- 70 Difference and functional equations
- 75 Integral and integro-differential equations
- 80 Error analysis
- 82 Miscellaneous inequalities
- 85 Graphical methods
- 90 Harmonic analysis and synthesis

## 68. COMPUTING MACHINES

## 69. GENERAL APPLIED MATHEMATICS

## 70. MECHANICS OF PARTICLES AND SYSTEMS

- 34 Ordinary differential equations
- 35 Partial differential equations
- 45 Integral and integro-differential equations
- 49 Calculus of variations
- 60 Probability
- 65 Numerical methods

## 73. ELASTICITY, PLASTICITY

- 34 Ordinary differential equations
- 35 Partial differential equations
- 44 Integral transforms
- 45 Integral and integro-differential equations
- 46 Functional analysis
- 49 Calculus of variations
- 60 Probability
- 65 Numerical methods

## 76. FLUID MECHANICS, ACOUSTICS

- 34 Ordinary differential equations
- 35 Partial differential equations
- 41 Approximations and expansions
- 44 Integral transforms
- 45 Integral and integro-differential equations
- 46 Functional analysis
- 49 Calculus of variations
- 60 Probability
- 65 Numerical methods

## 78. OPTICS, ELECTROMAGNETIC THEORY

- 31 Potential theory
- 34 Ordinary differential equations
- 35 Partial differential equations



# SUBJECT CLASSIFICATION

- 45 Integral and integro-differential equations
- 55 Numerical methods
80. CLASSICAL THERMODYNAMICS, HEAT TRANSFER
  - 31 Potential theory
  - 35 Partial differential equations
81. QUANTUM MECHANICS
  - 06 Order, lattices
  - 22 Lie groups and algebras, representations
  - 30 Functions of a complex variable
  - 31 Potential theory
  - 32 Several complex variables
  - 34 Ordinary differential equations
  - 35 Partial differential equations
  - 45 Integral and integro-differential equations
  - 46 Functional analysis;  $C^*$ -algebras
  - 47 Operator theory
  - 60 Probability
  - 62 Statistics
82. STATISTICAL PHYSICS, STRUCTURE OF MATTER
  - 20 Group theory
  - 45 Integral and integro-differential equations
  - 62 Statistics
83. RELATIVITY
  - 35 Partial differential equations
  - 53 Differential geometry
85. ASTRONOMY AND ASTROPHYSICS
86. GEOPHYSICS
90. ECONOMICS, OPERATIONS RESEARCH, PROGRAMMING, GAMES
  - 10 Economics
  - 30 Operations research
- 40 Multi-stage decision processes, dynamic programming (general)
- 50 Linear programming
- 56 Integer programming
- 57 Stochastic programming
- 58 Nonlinear programming, general
- 59 Quadratic programming
- 60 Convex programming
- 70 Game theory
- 72 Stochastic games
- 75 Differential and continuous games (See also 93.40)
92. BIOLOGY AND BEHAVIORAL SCIENCES
  - 10 Biology
  - 20 Genetics
  - 30 Population dynamics, epidemiology
  - 40 Sociology
  - 50 Psychology
93. SYSTEMS, CONTROL
  - 10 Systems, general
  - 20 Stability, qualitative behavior
  - 40 Optimal control (See also 34.85, 35.15, 49.00, 90.00)
  - 60 Stochastic control
  - 70 Adaptive control
94. INFORMATION AND COMMUNICATION, CIRCUITS, AUTOMATA
  - 10 Communication theory
  - 20 Information theory
  - 30 Circuits, networks; applications of graph theory, Boolean algebra
  - 40 Automata, general (See also 02.88)
  - 45 Probabilistic automata
  - 50 Linguistics, formal languages

## ABBREVIATIONS OF NAMES OF JOURNALS

This list gives the form of references used in MATHEMATICAL REVIEWS and the complete title; the place of publication and other pertinent information are given in parentheses when desirable for clarity. An asterisk indicates that the journal has not previously been listed.

- Abh. Akad. Wiss. Göttingen Math.-Phys. Kl.* Abhandlungen der Akademie der Wissenschaften in Göttingen. Mathematisch-Physikalische Klasse. (Göttingen)
- Abh. Braunschweig. Wiss. Gesellsch.* Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft. (Braunschweig)
- Abh. Deutsch. Akad. Wiss. Berlin Kl. Math. Phys. Tech.* Abhandlungen der Deutschen Akademie der Wissenschaften zu Berlin. Klasse für Mathematik, Physik und Technik. (Berlin)
- Abh. Math. Sem. Univ. Hamburg.* Abhandlungen aus dem Mathematischen Seminar der Universität Hamburg. (Hamburg)
- Abh. Sächs. Akad. Wiss. Leipzig Math.-Natur. Kl.* Abhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig. Mathematisch-Naturwissenschaftliche Klasse. (Leipzig)
- Ablauf- und Planungsforschung.* Ablauf- und Planungsforschung. Organ des AKOR-der Gesellschaft für Operations Research in Wirtschaft und Verwaltung. (Munich)
- Abstracts Bulgarian Sci. Lit. Math. Phys. Astronom. Geophys. Geodes.* Bulgarian Academy of Sciences. Centre of Scientific Information and Documentation. Abstracts of Bulgarian Scientific Literature. Mathematics, Physics, Astronomy, Geophysics, Geodesy. (Sofia)
- Acad. Roy. Belg. Bull. Cl. Sci.* Académie Royale de Belgique. Bulletin de la Classe des Sciences. Koninklijke Belgische Academie. Mededelingen van de Klasse der Wetenschappen. (Brussels)
- Acad. Roy. Belg. Cl. Sci. Mém. Coll. in-8°.* Académie Royale de Belgique. Classe des Sciences. Mémoires. Collection in-8°. Koninklijke Belgische Academie. Klasse der Wetenschappen. Verhandelingen. Verzameling in-8°. (Brussels)
- Acad. Serbe Sci. Arts Glas.* Académie Serbe des Sciences et des Arts. Glas. Classe des Sciences Mathématiques et Naturelles. Nouvelle Série. (Belgrade)
- Accad. Naz. Sci. Lett. Arti Modena Atti Mem.* Accademia Nazionale di Scienze Lettere e Arti. Modena. Atti e Memorie. (Modena)
- Acta Acad. Abo. Ser. B.* Acta Academiae Aboensis, Ser. B. Mathematica et Physica. Matematik-Naturvetenskap-Teknik. (Åbo = Turku)
- Acta Acust. Sinica.* Acta Acustica Sinica. (Peking)
- Acta Arith.* Polska Akademia Nauk. Instytut Matematyczny. Acta Arithmetica. (Warsaw)
- Acta Astronom. Sinica.* Acta Astronomica Sinica. (Peking)
- Acta Ci. Compostelana.* Acta Científica Compostelana. (Santiago de Compostela)
- Acta Ci. Venezolana.* Acta Científica Venezolana. Asociación Venezolana para el Avance de la Ciencia. (Caracas)
- Acta Cybernet.* Acta Cybernetica. (Szeged)
- Acta Fac. Rerum Natur. Univ. Comenian. Math.* Acta Facultatis Rerum Naturalium Universitatis Comenianae. Mathematica. (Bratislava)
- Acta Informat.* Acta Informatica. (Berlin)
- Acta Math.* Acta Mathematica. (Uppsala)
- Acta Math. Acad. Sci. Hungar.* Acta Mathematica Academiae Scientiarum Hungaricae. (Budapest)
- Acta Math. Sinica.* Acta Mathematica Sinica. (Peking) (Translated as: Chinese Math.—Acta)
- Acta Mech.* Acta Mechanica. (Vienna)
- Acta Mech. Sinica (New York).* Acta Mechanica Sinica. (New York) (Translation of *Acta Mech. Sinica (Peking)*)
- Acta Mech. Sinica (Peking).* Acta Mechanica Sinica. (Peking) (Translated as: *Acta Mech. Sinica (New York)*)
- Acta Mexicana Ci. Tecn.* Instituto Politécnico Nacional. Acta Mexicana de Ciencia y Tecnología. (Mexico City)
- Acta Philos. Fenn.* Acta Philosophica Fennica. (Helsinki)
- Acta Phys. Acad. Sci. Hungar.* Acta Physica Academiae Scientiarum Hungaricae. (Budapest)
- Acta Phys. Austriaca.* Acta Physica Austriaca. (Vienna)
- Acta Phys. Polon. A.* Polska Akademia Nauk. Instytut Fizyki. Acta Physica Polonica A. (Warsaw)
- Acta Phys. Polon. B.* Polska Akademia Nauk. Instytut Fizyki. Acta Physica Polonica B. (Warsaw)
- Acta Phys. Sinica.* Acta Physica Sinica. (Peking) (Translated as: Chinese J. Phys. (Peking))
- Acta Polytech. Scand. Math. and Comput. Mach. Ser.* Acta Polytechnica Scandinavica. Mathematics and Computing Machinery Series. (Stockholm)
- Acta Sci. Math. (Szeged).* Acta Universitatis Szegediensis. Acta Scientiarum Mathematicarum. (Szeged)
- Acta Sci. Natur. Univ. Pekinensis.* Acta Scientiarum Naturalium Universitatis Pekinensis. (Peking)
- Acta Sci. Vietnam.* Acta Scientiarum Vietnamicarum. Sectio Scientiarum Mathematicarum et Physicarum. (Hanoi)
- Acta Tech. Acad. Sci. Hungar.* Acta Technica Academiae Scientiarum Hungaricae. (Budapest)
- Acta Tech. ČSAV.* Acta Technica. Československá Akademie Věd. (Prague)
- Acta Univ. Carolinae—Math. et Phys.* Acta Universitatis Carolinae. Mathematica et Physica. (Prague)
- Acta Univ. Tamp. Ser. A.* Acta Universitatis Tamporensis. Series A. (Helsinki)
- Acta Univ. Wratislav.* Acta Universitatis Wratislaviensis. (Wrocław)
- Actualités Sci. Indust.* Actualités Scientifiques et Industrielles. (Paris)
- Advances in Appl. Probability.* Advances in Applied Probability. (Sheffield)
- Advances in Math.* Advances in Mathematics. (New York)
- Aequationes Math.* Aequationes Mathematicae. (Basel-Waterloo)
- AEÜ—Arch. Elektron. Übertragungstech. Electron. Commun.* Archiv für Elektronik und Übertragungstechnik. Electronics and Communication. (Stuttgart)
- AIAA J.* AIAA Journal. American Institute of Aeronautics and Astronautics. (Easton, Pa.)
- Ajatus.* Suomen Filosofisen Yhdistyksen Vuosikirja. Yearbook of the Philosophical Society of Finland. (Helsinki)
- Akad. Nauk Armjan. SSR Dokl.* Akademija Nauk Armjanskoi SSR. Doklady. (Erevan)
- Akad. Nauk Azerbaidžan. SSR Dokl.* Akademija Nauk Azerbaidžanskoi SSR. Doklady. (Baku)

ABBREVIATIONS OF NAMES OF JOURNALS

- Akad. Nauk Azerbaidžan. SSR Trudy Inst. Mat. Meh.* Akademija Nauk Azerbaidžanskoi SSR. Trudy Instituta Matematiki i Mehaniki. (Baku)
- Akad. Nauk Gruzin. SSR Trudy Tbiliss. Mat. Inst. Razmadze.* Akademija Nauk Gruzinskoi SSR. Trudy Tbilisskogo Matematičeskogo Instituta im. A. M. Razmadze. (Tbilisi) See *Sakharth. SSR Meen. Akad. Math. Inst. Šrom.*
- Akad. Nauk Kazah. SSR Trudy Astrofiz. Inst.* Akademija Nauk Kazahskoi SSR. Trudy Astrofizičeskogo Instituta. (Alma-Ata)
- Akad. Nauk Kazah. SSR Trudy Inst. Mat. i Meh.* Akademija Nauk Kazahskoi SSR. Trudy Instituta Matematiki i Mehaniki. (Alma-Ata)
- Akad. Nauk SSSR Trudy Jakutsk. Filial. Ser. Fiz.* Akademija Nauk SSSR. Trudy Jakutskogo Filiala. Serija fizičeskaja. (Moscow)
- Akad. Nauk Uzbek. SSR Trudy Inst. Mat.* Akademija Nauk Uzbekskoi SSR. Trudy Instituta Matematiki im. V. I. Romanovskogo. (Tashkent)
- Akad. Nauka i Umjet. Bosne i Hercegov. Rad. Odjelj. Prirod. Mat. Nauka.* Akademija Nauka i Umjetnosti Bosne i Hercegovine. Radovi. Odjeljenje Prirodnih i Matematičkih Nauka. (Sarajevo)
- Akad. Nauka i Umjet. Bosne i Hercegov. Rad. Odjelj. Tehn. Nauka.* Akademija Nauka i Umjetnosti Bosne i Hercegovine. Radovi. Odjeljenje Tehničkih Nauka. (Sarajevo)
- Akad. Wiss. Lit. Mainz Abh. Math.-Natur. Kl.* Akademie der Wissenschaften und der Literatur in Mainz. Abhandlungen der Mathematisch-Naturwissenschaftlichen Klasse. (Wiesbaden)
- Akust. Ž.* Akademija Nauk SSSR. Akustičeskij Žurnal. (Moscow) (Translated as: *Soviet Physics Acoust.*)
- Algebra and Logic.* Algebra and Logic. (New York) (Translation of *Algebra i Logika*)
- Algebra i Logika.* Akademija Nauk SSSR. Sibirskoe Otdelenie. Institut Matematiki. Algebra i Logika. (Novosibirsk) (Translated as: *Algebra and Logic*)
- Algebra Universalis.* Algebra Universalis. (Basel)
- Algoritmy i Algoritm. Jazyki.* Vyčislitel'nyĭ Centr Akademii Nauk SSSR. Algoritmy i Algoritmicheskie Jazyki. (Moscow)
- Algorytmy.* Algorytmy. Prace Instytutu Maszyn Matematycznych Polskiej Akademii Nauk. (Warsaw)
- Allgemein. Statist. Arch.* Allgemeines statistisches Archiv. Organ der Deutschen Statistischen Gesellschaft. (Munich)
- \**Alma-Atin. Gos. Ped. Inst. Učen. Zap.* Alma-Atinskij Gosudarstvennyĭ Pedagogičeskij Institut im. Abajja. Učenyje Zapiski. (Alma-Ata) (May also appear as: *Kazah. Gos. Ped. Inst. Učen. Zap.*)
- Alta Frequenza.* Alta Frequenza. Rivista di Elettronica e Telecomunicazioni della Associazione Elettrotecnica ed Elettronica Italiana. (Milan)
- Amer. J. Math.* American Journal of Mathematics. (Baltimore, Md.)
- Amer. J. Phys.* American Journal of Physics. (New York)
- Amer. Math. Monthly.* The American Mathematical Monthly. (Buffalo, N.Y.)
- Amer. Math. Soc. Transl.* American Mathematical Society Translations. (Providence, R.I.)
- Amer. Statist.* The American Statistician. (Washington, D.C.)
- AMR.* Applied Mechanics Reviews. (New York)
- An. Acad. Brasil. Ci.* Anais da Academia Brasileira de Ciências. (Rio de Janeiro)
- An. Fac. Ci. Univ. Porto.* Anais de Faculdade de Ciências. Universidade do Porto. (Porto, Portugal)
- An. Inst. Mat. Univ. Nac. Autónoma México.* Anales del Instituto de Matemáticas. Universidad Nacional Autónoma de México. (Mexico City)
- An. Ști. Univ. "Al. I. Cuza" Iași Sect. I a Mat.* Analele Științifice ale Universității "Al. I. Cuza" din Iași. (Seria Nouă). Secțiunea I a Matematică. (Iași)
- An. Univ. București Acta Logica.* Analele Universității București. Acta Logica. (Bucharest)
- An. Univ. București Fiz.* Analele Universității București. Fizică. (Bucharest)
- An. Univ. București Mat.-Mec.* Analele Universității București. Matematică-Mecanică. (Bucharest)
- An. Univ. Timișoara Ser. Ști. Fiz.-Chim.* Analele Universității din Timișoara. Seria Științe Fizice-Chimice. (Timișoara)
- An. Univ. Timișoara Ser. Ști. Mat.* Analele Universității din Timișoara. Seria Științe Matematice. (Timișoara)
- Ann. Acad. Sci. Fenn. Ser. A I.* Suomalaisen Tiedekatemia Toimituksia. Sarja A. Annales Academiæ Scientiarum Fennicæ. Series A. I. Mathematica. (Helsinki)
- Ann. Acad. Sci. Fenn. Ser. A VI.* Suomalaisen Tiedekatemia Toimituksia. Sarja A. Annales Academiæ Scientiarum Fennicæ. Series A. VI. Physica. (Helsinki)
- Ann. École Nat. Sup. Méc. Nantes.* Annales École Nationale Supérieure de Mécanique. (Nantes)
- Ann. Fac. Sci. Univ. Clermont-Ferrand.* Annales de la Faculté des Sciences de l'Université de Clermont-Ferrand. (Clermont-Ferrand)
- Ann. Fac. Sci. Univ. Toulouse.* Annales de la Faculté des Sciences de l'Université de Toulouse pour les Sciences Mathématiques et les Sciences Physiques. (Toulouse)
- Ann. Human Genetics.* Annals of Human Genetics. (London)
- Ann. I.N.S.E.E.* Ministère de l'Économie et des Finances. Institut National de la Statistique et des Études Économiques. Annales de l'I.N.S.E.E. (Paris)
- Ann. Inst. Fourier (Grenoble).* Université de Grenoble. Annales de l'Institut Fourier. (Grenoble)
- Ann. Inst. H. Poincaré Sect. A.* Annales de l'Institut Henri Poincaré. Section A: Physique théorique. (Paris)
- Ann. Inst. H. Poincaré Sect. B.* Annales de l'Institut Henri Poincaré. Section B: Calcul des probabilités et statistique. (Paris)
- Ann. Inst. Statist. Math.* Annals of the Institute of Statistical Mathematics. (Tokyo)
- Ann. Japan Assoc. Philos. Sci.* Annals of the Japan Association for Philosophy of Science. (Tokyo)
- Ann. Mat. Pura Appl.* Annali di Matematica Pura ed Applicata. (Bologna)
- Ann. Math. Logic.* Annals of Mathematical Logic. (Amsterdam)
- Ann. Math. Statist.* The Annals of Mathematical Statistics. (Baltimore, Md.)
- Ann. of Math.* Annals of Mathematics. (Princeton, N.J.)
- Ann. of Sci.* Annals of Science. (London)
- Ann. Physics.* Annals of Physics. (New York)
- Ann. Physik.* Annalen der Physik. (Leipzig)
- Ann. Polon. Math.* Polska Akademia Nauk. Annales Polonici Mathematici. (Warsaw)
- Ann. Sci. École Norm. Sup.* Annales Scientifiques de l'École Normale Supérieure. (Paris)
- Ann. Sci. Univ. Besançon Math.* Annales Scientifiques de l'Université de Besançon. Mathématiques. (Besançon)
- Ann. Sci. Univ. Besançon Méc. Phys. Théor.* Annales Scientifiques de l'Université de Besançon. Mécanique et Physique Théorique. (Besançon)
- Ann. Scuola Norm. Sup. Pisa.* Annali della Scuola Normale Superiore di Pisa. Scienze Fisiche e Matematiche. (Pisa)



# ABBREVIATIONS OF NAMES OF JOURNALS

*Ann. Soc. Sci. Bruxelles Sér. I.* Annales de la Société Scientifique de Bruxelles. Série I. Sciences Mathématiques, Astronomiques et Physiques. (Brussels)

*Ann. Télécommun.* Annales des Télécommunications. (Paris)

*Ann. Univ. Ferrara Sez. VII.* Annali dell'Università di Ferrara. (Nuovo Serie). Sezione VII. Scienze Matematiche. (Ferrara)

*Ann. Univ. Mariae Curie-Skłodowska Sect. A.* Annales Universitatis Mariae Curie-Skłodowska. Section A. Mathematics. (Lublin)

*Ann. Univ. Sarav. Math.-Natur. Fak.* Annales Universitatis Saravensis. Mathematisch-Naturwissenschaftliche Fakultät. (Berlin)

*Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* Annales Universitatis Scientiarum Budapestinensis de Rolando Eötvös Nominatae. Sectio Mathematica. (Budapest)

*Ann. Univ. Turku. Ser. A I.* Annales Universitatis Turkuensis. Series A. I. Astronomica-Chemica-Physica-Mathematica. (Turku)

*Annuaire Univ. Sofia Fac. Math.* Godišnik na Sofijskija Universitet Matematičeski Fakultet. Annuaire de l'Université de Sofia. Faculté de Mathématiques. (Sofia)

*Annuaire Univ. Sofia Fac. Phys.* Godišnik na Sofijskija Universitet Fizičeski Fakultet. Annuaire de l'Université de Sofia. Faculté de Physique. (Sofia)

*Annual Rep. Fac. Ed. Univ. Iwate.* Annual Report of the Faculty of Education, University of Iwate. (Kakuzanwaki)

*Appl. Mat.* Československá Akademie Véd. Aplikace Matematiky. (Prague)

*Appl. Mech. Rev.* Applied Mechanics Reviews. (New York) (Sometimes abbreviated as *AMR* in the text of *Math. Reviews*)

*Appl. Sci. Res.* Applied Scientific Research. (The Hague)

*Applicable Anal.* Applicable Analysis. An International Journal. (New York)

*Aragirma.* Arastirma. Journal of the Institute for Research in Philosophy, the History of Science, Psychology and Sociology. Faculty of Letters, Ankara University. (Ankara)

*Arbok Univ. Bergen Mat.-Natur. Ser.* Arbok for Universitetet i Bergen. Mat.-Naturv. Serie. (Bergen)

*Arch. Automat. i Telemek.* Instytut Automatyki Polskiej Akademii Nauk. Archivum Automatyki i Telemekhaniki. (Warsaw)

*Arch. Elektrotech.* (Warsaw). Komitet Elektrotechniki. Komitet Elektroniki i Telekomunikacji Polskiej Akademii Nauk. Archivum Elektrotechniki. (Warsaw)

*Arch. History Exact Sci.* Archive for History of Exact Sciences. (Berlin)

*Arch. Internat. Histoire Sci.* Archives Internationales d'Histoire des Sciences. (Paris)

*Arch. Math. (Basel).* Archiv der Mathematik. Archives of Mathematics. Archives Mathématiques. (Basel-Stuttgart)

*Arch. Math. (Brno).* Spisy Přírodovědecké Fakulty University J. E. Purkyně v Brně. Archivum Mathematicum. (Brno)

*Arch. Math. Logik Grundlagenforsch.* Archiv für mathematische Logik und Grundlagenforschung. (Stuttgart)

*Arch. Mech. (Arch. Mech. Stos.)* Institute of Fundamental Technical Research. Polish Academy of Sciences. Archives of Mechanics (Archivum Mechaniki Stosowanej). (Warsaw)

*Arch. Rational Mech. Anal.* Archive for Rational Mechanics and Analysis. (Berlin)

*Archimede.* Archimede. Rivista per gli Insegnanti e i Cultori di Matematiche Pure e Applicate. (Florence)

*Ark. Astronom.* Arkiv för Astronomi. (Stockholm)

*Ark. Fys.* Arkiv för Fysik. (Stockholm) (Replaced by: *Phys. Scripta*)

*Ark. Mat.* Arkiv för Matematik. (Stockholm)

*Arhimedes.* Arkhimedes. Suomen Fysikkoseura—Finlands Fysikerförening r.y. Suomen Matemaattinen Yhdistys—Finlands Matematiska Förening r.y. (Helsinki)

*Armjan. Gos. Ped. Inst. Sb. Naučn. Trud. Ser. Fiz.-Mat.* Armjanskij Gosudarstennyj Pedagogičeskij Institut imeni H. Abovjana. Sbornik Naučnyh Trudov. Serija Fiziko-Matematičeskaja. (Erevan)

*Arquivo Inst. Gulbenkian Ci. A Estud. Mat. Fis.-Mat.* Arquivo do Instituto Gulbenkian de Ciência. A. Estudos Matemáticos e Físico-Matemáticos. (Lisbon)

*Artificial Intelligence.* Artificial Intelligence. An International Journal. (Amsterdam)

*Assoc. Roy. Actuar. Belges Bull.* Association Royale des Actuaire Belges. Bulletin. (Brussels)

*Astin Bull.* The Astin Bulletin. Publication of the Astin Section of the Permanent Committee for International Actuarial Congresses. (Amsterdam)

*Astrofizika.* Akademija Nauk Armjanskoi SSR. Astrofizika. (Erevan) (Translated as: *Astrophysics*)

*Astronaut. Acta.* Astronautica Acta. (Vienna)

*Astronom. and Astrophys.* Astronomy and Astrophysics. (Berlin)

*Astronom. J.* The Astronomical Journal. (New Haven, Conn.)

*Astronom. Jber.* Astronomischer Jahresbericht. (Berlin)

*Astronom. Nachr.* Astronomische Nachrichten. (Berlin)

*Astronom. Ž.* Akademija Nauk SSSR. Astronomičeskij Žurnal. (Moscow) (Translated as: *Soviet Astronom. AJ*)

*Astrophys. J.* The Astrophysical Journal. (Chicago, Ill.)

*Astrophysics.* Astrophysics. (A translation of *Astrofizika* of the Academy of Sciences of the Armenian SSR). (New York) (Translation of *Astrofizika*)

*Atti Accad. Gioenia Sci. Natur. Catania.* Atti della Accademia Gioenia di Scienze Naturali in Catania. (Catania)

*Atti Accad. Ligure Sci. Lett.* Atti della Accademia Ligure di Scienze e Lettere. (Genoa)

*Atti Accad. Naz. Lincei Mem. Cl. Sci. Fis. Mat. Natur. Sez. I.* Atti della Accademia Nazionale dei Lincei. Memorie. Classe di Scienze Fisiche, Matematiche e Naturali. Sezione I<sup>a</sup>. (Matematica, Meccanica, Astronomia, Geodesia e Geofisica). (Rome)

*Atti Accad. Naz. Lincei Rend. Cl. Sci. Fis. Mat. Natur.* Atti della Accademia Nazionale dei Lincei. Rendiconti. Classe di Scienze Fisiche, Matematiche e Naturali. (Rome)

*Atti Accad. Sci. Fis. Mat. Napoli.* Atti dell'Accademia delle Scienze Fisiche e Matematiche di Napoli. (Naples)

*Atti Accad. Sci. Ist. Bologna Cl. Sci. Fis. Rend.* Atti della Accademia delle Scienze dell'Istituto di Bologna. Classe di Scienze Fisiche, Rendiconti. (Bologna)

*Atti Accad. Sci. Lett. Arti Palermo Parte I.* Atti della Accademia di Scienze Lettere e Arti di Palermo. Parte Prima: Scienze. (Palermo)

*Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* Atti della Accademia delle Scienze di Torino. Classe di Scienze Fisiche, Matematiche e Naturali. (Turin)

*Atti Fond. Giorgio Ronchi Contrib. Ist. Naz. Ottica.* Atti della Fondazione Giorgio Ronchi e Contributi dell'Istituto Nazionale di Ottica. (Florence)

*Atti Sem. Mat. Fis. Univ. Modena.* Atti del Seminario Matematico e Fisico dell'Università di Modena. (Modena)

*Atti Soc. Peloritana Sci. Fis. Mat. Natur.* Atti della Società Peloritana di Scienze Fisiche Matematiche e Naturali. (Messina)

*Austral. Comput. J.* The Australian Computer Society. The Australian Computer Journal. (Chippendale)

*Austral. J. Phys.* Australian Journal of Physics. (Melbourne)

*Austral. J. Sci.* The Australian Journal of Science. (Sydney)

ABBREVIATIONS OF NAMES OF JOURNALS

- Austral. J. Statist.* The Australian Journal of Statistics. (Sydney)
- Automat. Control.* Automatic Control. (A translation of *Avtomatika i Vychislitel'naja Tehnika*). (New York) (Translation of *Avtomat. i Vychisl. Tehn.*)
- Automat. Remote Control.* Automation and Remote Control. (A translation of *Avtomatika i Telemekhanika*, a publication of the Academy of Sciences of the USSR). (Pittsburgh, Pa.) (Translation of *Avtomat. i Telemekh.*)
- Automatica—J. IFAC.* Automatica. The Journal of IFAC the International Federation of Automatic Control. (Oxford)
- Avtomat. i Izchisl. Tehn.* *Avtomatika i Izchislitelna Tehnika*. (Sofia)
- Avtomat. i Telemekh.* *Akademija Nauk Sojuza SSR. Avtomatika i Telemekhanika*. (Moscow) (Translated as: *Automat. Remote Control*)
- Avtomat. i Vychisl. Tehn. (Riga).* *Akademija Nauk Latvijas SSR Avtomatika i Vychislitel'naja Tehnika*. (Riga) (Translated as: *Automat. Control*)
- Avtomatika.* *Akademija Nauk Ukrain'skoj RSR. Institut Elektrotehniki. Avtomatika*. (Kiev) (Translated as: *Soviet Automat. Control*)
- Azerbaidžan. Gos. Univ. Učen. Zap. Ser. Fiz.-Mat. Nauk.* *Azerbaidžanskij Gosudarstvennyj Universitet im. S. M. Kirova. Učenyje Zapiski. Serija Fiziko-Matematičeskijh Nauk*. (Baku)
- Balašov. Gos. Ped. Inst. Učen. Zap.* *Balašovskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski*. (Balašov)
- Bangabasi College Mag.* *Bangabasi College Magazine*. (Calcutta)
- Bangabasi Morning College Mag.* *Bangabasi Morning College Magazine*. (Calcutta)
- Barnaul. Gos. Ped. Inst. Učen. Zap.* *Ministerstvo Prosvetšeniya RSFSR. Barnaul'skij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski*. (Barnaul)
- Baškir. Gos. Univ. Učen. Zap.* *Baškirskij Gosudarstvennyj Universitet. Učenyje Zapiski*. (Ufa)
- Bayer. Akad. Wiss. Math.-Natur. Kl. Abh.* *Bayerische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Abhandlungen*. (Munich)
- Bayer. Akad. Wiss. Math.-Natur. Kl. S.-B.* *Bayerische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Sitzungsberichte*. (Munich)
- Beijing Daxue Xuebao Ziran Kexue.* See *Acta Sci. Natur. Univ. Pekinensis*.
- Beiträge Anal.* *Beiträge zur Analysis*. (Berlin)
- Bell J. Econom. and Management Sci.* The Bell Journal of Economics and Management Science. (New York)
- Bell System Tech. J.* The Bell System Technical Journal. (New York)
- Biometrics.* *Biometrics. Journal of the Biometric Society*. (Blackburg, Va.)
- Biometrika.* *Biometrika*. (London)
- Biometrische Z.* *Biometrische Zeitschrift*. (Berlin)
- BIT = Nordisk Tidskr. Informationsbehandling (BIT).*
- Biul. Lubel. Towarz. Nauk. Wydział II Mat. Fiz. Chem.* *Biuletyn Lubelskiego Towarzystwa Naukowego. Wydział II. Matematyka. Fizyka. Chemia*. (Lublin)
- Biul. Wojsk. Akad. Tech.* *Biuletyn Wojskowej Akademii Technicznej im. Jarosława Dąbrowskiego*. (Warsaw)
- Bjull. Inst. Teoret. Astronom.* *Akademija Nauk Sojuza Sovetskijh Socialističeskijh Respublik. Bjulleten' Instituta Teoretičeskog Astro-nomii*. (Moscow)
- B'lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Fiz. Inst. s Aneb.* *B'lgarska Akademija na Naukite. Otdelenie za Matematičeski i Fizičeski Nauki. Izvestija na Fizičeskija Institut s Aneb.* (Sofia)
- B'lgar. Akad. Nauk. Otdel. Mat. Fiz. Nauk. Izv. Mat. Inst.* *B'lgarska Akademija na Naukite. Otdelenie za Matematičeski i Fizičeski Nauki. Izvestija na Matematičeskija Institut*. (Sofia)
- B'lgar. Akad. Nauk. Otdel. Tehn. Nauk. Izv. Inst. Tehn. Kibernet.* *B'lgarska Akademija na Naukite. Otdelenie za Tehničeski Nauki. Izvestija na Instituta po Tehničeska Kibernetika*. (Sofia)
- Bol. Fac. Ingen. Agrimens. Montevideo.* *Boletín de la Facultad de Ingenierian y Agrimensura de Montevideo*. (Montevideo)
- Bol. Mat.* *Boletín de Matemáticas*. (Bogotá)
- Bol. Soc. Mat. Mexicana.* *Boletín de la Sociedad Matemática Mexicana*. (Mexico City)
- Bol. Univ. Paraná Inst. Fis.* *Boletim da Universidade do Paraná. Conselho de Pesquisas. Instituto de Fisica*. (Paraná)
- Boll. Un. Mat. Ital.* *Bolletino della Unione Matematica Italiana*. (Bologna)
- Bonn. Math. Schr.* *Bonner Mathematische Schriften*. (Bonn)
- British J. Hist. Sci.* *British Society for the History of Science. British Journal for the History of Science*. (London)
- British J. Math. Statist. Psychology.* *The British Journal of Mathematical and Statistical Psychology*. (London)
- British J. Philos. Sci.* *The British Journal for the Philosophy of Science*. (Edinburgh)
- Buharsk. Gos. Ped. Inst. Učen. Zap. Ser. Fiz.-Mat. Nauk.* *Buharskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski. Serija Fiziko-Matematičeskijh Nauk*. (Bukhara)
- Bul. Akad. Štiinca RSS Moldoven.* *Akademija Nauk Moldavskoj SSR. Izvestija Akademii Nauk Moldavskoj SSR. Buletinul Akademiei de Științe a RSS Moldovenești*. (Kishinev)
- Bul. Inst. Politehn. Brașov Ser. A Mec.* *Buletinul Institutului Politehnic din Brașov. Seria A. Mecanică*. (Brașov)
- Bul. Inst. Politehn. București.* *Buletinul Institutului Politehnic București*. (Bucharest)
- Bul. Inst. Politehn. Iași.* *Buletinul Institutului Politehnic din Iași. Serie Nouă*. (Iași)
- Bul. Ști. Inst. Politehn. Cluj.* *Buletinul Științific al Institutului Politehnic din Cluj*. (Cluj)
- Bul. Ști. Tehn. Inst. Politehn. Timișoara.* *Buletinul Științific și Tehnic al Institutului Politehnic Timișoara. Serie Nouă. (Timișoara)* (Continued as: *Bul. Ști. Tehn. Inst. Politehn. Timișoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.*)
- Bul. Ști. Tehn. Inst. Politehn. Timișoara—Ser. Mat.-Fiz.-Mec. Teoret. Apl.* *Buletinul Științific și Tehnic al Institutului Politehnic Timișoara. Serie Nouă. (Timișoara)* (Formerly: *Bul. Ști. Tehn. Inst. Politehn. Timișoara*)
- Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys.* *Bulletin de l'Académie Polonaise des Sciences. Série des Sciences Mathématiques, Astronomiques et Physiques*. (Warsaw)
- Bull. Acad. Polon. Sci. Sér. Sci. Tech.* *Bulletin de l'Académie Polonaise des Sciences. Série des Sciences Techniques*. (Warsaw)
- Bull. Acad. Serbe Sci. Arts Cl. Sci. Math. Natur. Sci. Math.* *Bulletin de l'Académie Serbe des Sciences et des Arts. Classe des Sciences Mathématiques et Naturelles. Sciences Mathématiques*. (Belgrade)
- Bull. Amer. Math. Soc.* *Bulletin of the American Mathematical Society*. (Providence, R.I.)
- Bull. Austral. Math. Soc.* *Bulletin of the Australian Mathematical Society*. (St. Lucia)
- Bull. Calcutta Math. Soc.* *Bulletin of the Calcutta Mathematical Society*. (Calcutta)
- Bull. College Sci. (Baghdad).* *Bulletin of the College of Science*. (Baghdad)
- Bull. Direction Études Recherches Sér. C Math. Informat.* *Électricité de France. Bulletin de la Direction des Études et Recherches. Série C. Mathématiques. Informatique*. (Grenoble)
- Bull. Fac. Ed. Univ. Kagoshima.* *Bulletin of the Faculty of Education, University of Kagoshima*. (Kagoshima)

ABBREVIATIONS OF NAMES OF JOURNALS

*Bull. Fac. Ed. Utsunomiya Univ.* Bulletin of the Faculty of Education. Utsunomiya University. (Utsunomiya)

*Bull. Fac. Engrg. Miyazaki Univ.* Bulletin of the Faculty of Engineering. Miyazaki University. (Miyazaki)

*Bull. Fac. Sci. Ibaraki Univ. Ser. A.* Bulletin of the Faculty of Science. Ibaraki University. Series A. Mathematics. (Ibaraki)

*Bull. Fukuoka Univ. Ed. III.* Bulletin of Fukuoka University of Education. Part III. Natural Sciences. (Fukuoka)

*Bull. Géodésique.* Bulletin Géodésique. (Paris)

*Bull. Inst. Internat. Statist.* Bulletin de l'Institut International de Statistique. (The Hague)

*Bull. Inst. Statist. Res. Training.* Institute of Statistical Research and Training. University of Dacca. The Bulletin of the Institute of Statistical Research and Training. (Dacca) (Continued as: *J. Statist. Res.*)

*Bull. Kyoto Univ. Ed. Ser. B.* Bulletin of the Kyoto University of Education. Series B. Mathematics and Natural Science. (Kyoto)

*Bull. Kyushu Inst. Tech. Math. Natur. Sci.* Bulletin of the Kyushu Institute of Technology. Mathematics, Natural Science. (Tobata)

*Bull. London Math. Soc.* The Bulletin of the London Mathematical Society. (London)

*Bull. Math. Biophys.* The Bulletin of Mathematical Biophysics. (Ann Arbor, Mich.)

*Bull. Math. Soc. Sci. Math. R. S. Roumanie.* Bulletin Mathématique de la Société des Sciences Mathématiques de la République Socialiste de Roumanie. (Bucharest)

*Bull. Math. Statist.* Bulletin of Mathematical Statistics. (Fukuoka)

*Bull. Nagoya Inst. Tech.* Bulletin of Nagoya Institute of Technology. (Nagoya)

*Bull. Nara Univ. Ed. Natur. Sci.* Bulletin of Nara University of Education. Natural Science. (Nara)

*Bull. Oxford Univ. Inst. Econom. Statist.* Bulletin of the Oxford University Institute of Economics and Statistics. (Oxford)

*Bull. Sci. Conseil Acad. RSF Yougoslav. Sect. A.* Bulletin Scientifique. Conseil des Académies de la RSF de Yougoslavie. Section A. (Zagreb)

*Bull. Sci. Engrg. Res. Lab. Waseda Univ.* Bulletin of Science and Engineering Research Laboratory. Waseda University. (Tokyo)

*Bull. Sci. Math.* Bulletin des Sciences Mathématiques. (Paris)

*Bull. Signal. 110.* Centre National de la Recherche Scientifique. Bulletin Signalétique 110. Informatique. Automatique. Recherche Opérationnelle. Gestion. (Paris) (Formerly: *Bull. Signal. 110 Math. Appl. Informat. Automat.*)

*Bull. Signal. 110 Math. Appl. Informat. Automat.* Centre National de la Recherche Scientifique. Bulletin Signalétique 110. Mathématiques Appliquées. Informatique. Automatique. (Paris) (Continued as: *Bull. Signal. 110*)

*Bull. Soc. Math. Belg.* Bulletin de la Société Mathématique de Belgique. (Brussels)

*Bull. Soc. Math. France.* Bulletin de la Société Mathématique de France. (Paris)

*Bull. Soc. Math. Grèce.* Bulletin de la Société Mathématique de Grèce. (Athens)

*Bull. Soc. Math. Phys. Macédoine.* Bulletin de la Société des Mathématiciens et des Physiciens de la République Populaire de Macédoine. Bilten na Društvo na Matematikarite i Fizikarite od Socialistička Republika Makedonija. (Skopje)

*Bull. Soc. Roy. Sci. Liège.* Bulletin de la Société Royale des Sciences de Liège. (Liège)

*Bull. Soc. Sci. Lettres Lódz.* Bulletin de la Société des Sciences et des Lettres de Lódz. (Lódz)

*Bull. Tokyo Gakugei Univ.* Bulletin of Tokyo Gakugei University. (Tokyo)

*Bull. Univ. Osaka Prefecture Ser. A.* Bulletin of University of Osaka Prefecture. Series A. Engineering and Natural Sciences. (Osaka)

*Bull. Yamagata Univ. Natur. Sci.* Bulletin of the Yamagata University. (Natural Science). (Yamagata)

\**C.D.I. Informat. Math. Appl.* C.D.I. Informatique et Mathématiques Appliquées. (Paris)

*C. R. Acad. Bulgare Sci.* Doklady Bolgarskoj Akademii Nauk. Comptes Rendus de l'Académie Bulgare des Sciences. (Sofia)

*C. R. Acad. Sci. Paris Sér. A-B.* Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences. Séries A et B. (Paris)

*Cahiers Centre Études Recherche Opér.* Cahiers du Centre d'Études de Recherche Opérationnelle. (Brussels)

*Cahiers Topologie Géom. Différentielle.* Cahiers de Topologie et Géométrie Différentielle. (Paris)

*Calcolo.* Calcolo. (Rome)

*Calcutta Statist. Assoc. Bull.* Calcutta Statistical Association Bulletin. (Calcutta)

*Canad. J. Math.* Canadian Journal of Mathematics. Journal Canadien de Mathématiques. (Toronto, Ont.)

*Canad. J. Phys.* Canadian Journal of Physics. (Ottawa, Ont.)

*Canad. Math. Bull.* Canadian Mathematical Bulletin. Bulletin Canadien de Mathématiques. (Toronto, Ont.)

*Časopis Pěst. Mat.* Československá Akademie Věd. Časopis pro Pěstování Matematiky. (Prague)

*Čečeno-Inguš. Gos. Ped. Inst. Učen. Zap.* Čečeno-Ingušskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski. (Groznyj)

*Celestial Mech.* Celestial Mechanics. (Dordrecht)

*Čeljabinsk. Gos. Ped. Inst. Trudy.* Čeljabinskij Gosudarstvennyj Pedagogičeskij Institut. Trudy. (Chelyabinsk)

*Centaurus.* Centaurus. (Copenhagen)

*Chem. Phys. Lett.* Chemical Physics Letters. (Amsterdam)

*Chinese J. Phys. (Peking).* Chinese Journal of Physics (Peking). (A translation of *Acta Physica Sinica* of the Chinese Academy of Sciences, Peking) (New York) (Translation of *Acta Phys. Sinica*)

*Chinese Math.—Acta.* Chinese Mathematics. Translation of *Acta Mathematica Sinica*. (Providence, R.I.) (Translation of *Acta Math. Sinica*)

*Cho-sŏn In-min Kong-hwa-kuk Kwa-hak-wŏn T'ong-p'o.* (Academy of Science of the People's Republic of Korea. Bulletin) Cho-sŏn Min-ju-ju-ŭi In-min Kong-hwa-kuk Kwa-hak-wŏn. T'ong-p'o. (Pyongyang)

\**Ciencias Ser. I Mat.* Ciencias Serie I Matemática. (Habana)

*Čitin. Gos. Ped. Inst. Učen. Zap.* Čitinskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski. (Chita)

*Collect. Math.* Consejo Superior de Investigaciones Científicas. Universidad de Barcelona. Collectanea Mathematica. Seminario Matemático de Barcelona. (Barcelona)

*Colloq. Math.* Colloquium Mathematicum. (Warsaw)

*Comm. ACM.* Communications of the Association for Computing Machinery. (New York)

*Comm. Dublin Inst. Adv. Studies Ser. A.* Communications of the Dublin Institute for Advanced Studies. Series A. (Dublin)

*Comm. Fac. Sci. Univ. Ankara Sér. A.* Communications de la Faculté des Sciences de l'Université d'Ankara. Série A. Mathématiques-Physique-Astronomie. (Ankara)

*Comm. Math. Phys.* Communications in Mathematical Physics. (Berlin)

*Comm. Pure Appl. Math.* Communications on Pure and Applied Mathematics. (New York)



ABBREVIATIONS OF NAMES OF JOURNALS

- Comment. Math. Helv.* Commentarii Mathematici Helvetici. (Zürich)
- Comment. Math. Prace Mat.* Roczniki Polskiego Towarzystwa Matematycznego. Seria I. Commentationes Mathematicae. Prace Matematyczne. (Warsaw)
- Comment. Math. Univ. Carolinae.* Commentationes Mathematicae Universitatis Carolinae. (Prague)
- Comment. Math. Univ. St. Pauli.* Commentarii Mathematici Universitatis Sancti Pauli. Rikkyô Daigaku Sûgaku Zasshi. (Tokyo)
- Compositio Math.* Compositio Mathematica. (Groningen)
- Comput. and Control Abstracts.* Computer and Control Abstracts. (New York)
- Comput. J.* The Computer Journal. (London)
- Comput. Rev.* Computing Reviews. (New York) (Usually abbreviated CR in the text of *Math. Reviews*)
- Comput. Surveys.* Computing Surveys. ACM. (New York)
- Computers & Structures.* Computers & Structures. (New York)
- Computing (Arch. Elektron. Rechnen).* Computing. Archiv für elektronisches Rechnen. Archives for Electronic Computing. (Vienna)
- COMSAT Tech. Rev.* COMSAT Technical Review. (Washington, D.C.)
- Confer. Sem. Mat. Univ. Bari.* Conferenze del Seminario di Matematica dell'Università di Bari. (Bari)
- Contents Contemporary Math. J. and New Publ.* Contents of Contemporary Mathematical Journals and New Publishers. (Providence, R.I.)
- CR.* Computing Reviews. (New York)
- Čuvaš. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosvešćenija RSFSR. Čuvaški Gosudarstvennyj Pedagogičeskij Institut im. I. Ja. Jakovleva. Učenyje Zapiski. (Cheboksary) (May also appear as: Čuvaš. Gos. Univ. i Čuvaš. Gos. Ped. Inst. Učen. Zap.)
- Čuvaš. Gos. Univ. i Čuvaš. Gos. Ped. Inst. Učen. Zap.* Čuvaški Gosudarstvennyj Universitet imeni I. N. Ul'janova. Čuvaški Gosudarstvennyj Pedagogičeskij Institut imeni I. Ja. Jakovleva. Učenyje Zapiski. (Cheboksary) (May also appear as: Čuvaš. Gos. Ped. Inst. Učen. Zap.)
- Cybernetics.* Cybernetics. (New York) (A translation of *Kibernetika* (Kiev))
- Czasopis. Techn.* Politechnika Krakowska i Krakowskie Zjednoczenie Budownictwa. Czasopismo Techniczne. (Kraków)
- Czechoslovak J. Phys.* Československá Akademie Nauk. Česloslovackij Fizičeskij Žurnal. Czechoslovak Academy of Sciences. Czechoslovak Journal of Physics. (Prague)
- Czechoslovak Math. J.* Československá Akademie Nauk. Česloslovackij Matematičeskij Žurnal. Czechoslovak Mathematical Journal. (Prague)
- Dagestan. Gos. Univ. Učen. Zap.* Dagestanskij Gosudarstvennyj Universitet imeni V. I. Lenina. Učenyje Zapiski. (Makhachkala)
- Dal'nevostoč. Gos. Univ. Učen. Zap.* Dal'nevostočnyj Gosudarstvennyj Universitet. Učenyje Zapiski (Serija fiziko-matematičeskijh Nauk). (Vladivostok)
- Danske Vid. Selsk. Mat.-Fys. Medd.* Det Kongelige Danske Videnskabsnernes Selskab Matematisk-fysiske Meddelelser. (Copenhagen)
- Defence Sci. J.* Defence Science Journal. (Delhi)
- Delta (Waukesha).* Delta. Waukesha Mathematics Society. (Waukesha, Wis.)
- Demonstratio Math.* Demonstratio Mathematica. (Warsaw)
- Denshi Tsushin Gakkai Ronbunshi.* See *Electron. Commun. Japan and Systems-Computers-Controls*.
- Differencial'nye Uravnenija.* Differential'nye Uravnenija. (Minsk) (Translated as: *Differential Equations*)
- Differential Equations.* Differential Equations. (New York) (Translation of *Differencial'nye Uravnenija*)
- Discrete Math.* Discrete Mathematics. (Amsterdam)
- Diskret. Analiz.* Akademija Nauk SSSR. Sibirskoe Otdelenie. Institut Matematiki. Diskretnij Analiz. Sbornik Trudov. (Novosibirsk)
- Dissertationes Math. Rozprawy Mat.* Polakiej Akademii Nauk. Instytut Matematyczny. Dissertationes Mathematicae. Rozprawy Matematyczne. (Warsaw)
- Dokl. Akad. Nauk BSSR.* Doklady Akademii Nauk BSSR. (Minsk)
- Dokl. Akad. Nauk SSSR.* Doklady Akademii Nauk SSSR. (Moscow) (Mathematics section translated as: *Soviet Math. Dokl.*; Physics section translated as: *Soviet Physics Dokl.*)
- Dokl. Akad. Nauk Tadzik. SSR.* Doklady Akademii Nauk Tadzikskoi SSR. (Dushanbe)
- Dokl. Akad. Nauk UzSSR.* Doklady Akademii Nauk UzSSR. (Tashkent)
- Dopovidj Akad. Nauk Ukraïn. RSR Ser. A.* Dopovidj Akademii Nauk Ukraïn's'koj RSR. Serija A. (Kiev)
- Dopovidj Akad. Nauk Ukraïn. RSR Ser. B.* Dopovidj Akademii Nauk Ukraïn's'koj RSR. Serija B. (Kiev)
- Duke Math. J.* Duke Mathematical Journal. (Durham, N.C.)
- Dušanbin. Gos. Ped. Inst. Učen. Zap.* Dušanbinskij Gosudarstvennyj Pedagogičeskij Institut im. T. G. Ševčenko. Učenyje Zapiski. (Dushanbe)
- DVT—Dějiny Věd a Techniky.* DVT—Dějiny Věd a Techniky. Společnost pro Dějiny Věd a Techniky. (Prague)
- Econom. Comp. Econom. Cybernet. Stud. Res.* Economic Computation and Economic Cybernetics Studies and Research. (Bucharest)
- Econometrica.* Econometrica. Journal of the Econometric Society. (Chicago, Ill.)
- EEA.* Science Abstracts. Electrical & Electronics Abstracts. (London)
- Eesti NSV Tead. Akad. Füüs. Astronoom. Inst. Uurim.* Eesti NSV Teaduste Akadeemia Füüsika ja Astronoomia Instituudi Uurimused. (Trudy Instituta Fiziki i Astronomii Akademii Nauk Estonskoj SSR). Publikacii Tartuskoj Astronomičeskoj Observatorii. (Tartu)
- Eesti NSV Tead. Akad. Tartu Astronoom. Observ. Publ.* Eesti NSV Teaduste Akadeemia Tartu Astronoomia Observatooriumi Publikatsioonid. (Tartu)
- Eesti NSV Tead. Akad. Toimetised Füüs.-Mat.* Eesti NSV Teaduste Akadeemia Toimetised. Füüsika-Matemaatika. Izvestija Akademii Nauk Estonskoj SSR. Serija Fizika-Matematika. (Tallin)
- Ėkonom. i Mat. Metody.* Ėkonomika i Matematičeskije Metody. (Moscow)
- Ėkonom.-Mat. Obzor.* Československá Akademie Věd. Ekonomicko-Matematičeský Obzor. (Prague)
- Elabuz. Gos. Ped. Inst. Učen. Zap.* Elabuzskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski. (Kazan)
- Electrical & Electronics Abstracts.* Science Abstracts. Electrical & Electronics Abstracts. (London) (Usually abbreviated EEA in the text of *Math. Reviews*)
- Electron. Commun. Japan.* Electronics and Communications in Japan. The Transactions of the Institute of Electronics and Communication Engineers of Japan. (Washington, D.C.) (A partial translation of *Denshi Tsushin Gakkai Ronbunshi*. See also: *Systems-Computers-Controls*)
- Electron. Lett.* Electronics Letters. (London)
- Elektron. Informationsverarbeitung. Kybernetik.* Sektion für Kybernetik beim Präsidium der Deutschen Akademie der Wissenschaften zu Berlin und der Mathematischen Gesellschaft der Deutschen Demokratischen Republik. Elektronische Informationsverarbeitung und Kybernetik. (Berlin)

ABBREVIATIONS OF NAMES OF JOURNALS

- Elem. Math.* Elemente der Mathematik. Revue de Mathématiques Élémentaires. Rivista de Matematica Elementare. (Basel)
- Engng. Cybernetics.* Engineering Cybernetics. English Edition of *Tekhnicheskaja Kibernetika*. (New York) (Translation of *Izv. Akad. Nauk SSSR Tekh. Kibernet.*)
- Enseignement Math.* L'Enseignement Mathématique. (Geneva)
- Estadist. Española.* Estadística Española. (Madrid)
- Estadística.* Estadística. (Washington, D.C.)
- Euclides (Groningen).* Euclides. Maandblad voor de Didactiek van de Wiskunde. (Groningen)
- Fac. Ingen. Agrimens. Montevideo Publ. Didact. Inst. Mat. Estadist.* Facultad de Ingeniería y Agrimensura. Montevideo. Publicaciones Didácticas del Instituto de Matemática y Estadística. (Montevideo)
- Fac. Sci. Univ. Skopje Annuaire.* Faculté des Sciences de l'Université de Skopje. Annuaire. (Skopje)
- Fasc. Math. Politechnika Poznańska. Zeszyty Matematyczne.* Fasciculi Mathematici. (Poznań)
- Fergan. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya Uzbekakof SSR. Ferganskii Gosudarstvennyi Pedagogičeskii Institut imeni Ulugbeka. Učenyje Zapiski. Serija Matematicheskaja. (Fergana)
- Fibonacci Quart.* The Fibonacci Quarterly. Official Organ of the Fibonacci Association. A journal devoted to the study of integers with special properties. (St. Mary's College, Calif.)
- Fields and Quanta.* Fields and Quanta. (London)
- \*Fiz. Elementar. Častice i Atom. Jadra.* Ob'edinennyi Institut Jadernyh Issledovanij. Dubna. Fizika Elementarnyh Častice i Atomnogo Jadra. (Moscow) (Translated as: *Soviet J. Particles and Nuclei*)
- Fiz.-Mat. Spis. B'lgar. Akad. Nauk.* B'lgarska Akademija na Naukite Fizičeskii Institut. Matematičeskii Institut. Fiziko-Matematičesko Spisanie. (Sofia)
- Fizika (Zagreb).* Fizika. A Journal of Experimental and Theoretical Physics. (Zagreb)
- Fluid Dynamics.* Fluid Dynamics. (New York) (Translation of *Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza*)
- FOA Rep.* FOA Reports. Försvarets Forskningsanstalt (Research Institute of National Defence). (Stockholm)
- Formosan Sci.* Formosan Science. (Taipei)
- Fortschr. Physik.* Fortschritte der Physik. (Berlin)
- Found. Language.* International Journal of Language and Philosophy. Foundations of Language. (Dordrecht)
- Found. Phys.* Foundations of Physics. (New York)
- Frequenz—Z. Schwingungs- und Schwachstromtech.* Frequenz. Zeitschrift für Schwingungs- und Schwachstromtechnik. (Berlin)
- Functional Anal. Appl.* Functional Analysis and its Applications. (New York) (Translation of *Funkcional. Anal. i Priložen.*)
- Fund. Math.* Polska Akademia Nauk. Fundamenta Mathematicae. (Warsaw)
- Funkcial. Ekvac.* Fakó de l'Funkcionalaj Ekvacioj Japana Matematika Societo. Funkcialaj Ekvacioj. (Serio Internacia). (Kobe)
- Funkcional. Anal. i Priložen.* Akademija Nauk SSSR. Funkcional'nyj Analiz i ego Priloženija. (Moscow) (Translated as: *Functional Anal. Appl.*)
- Fyz. Časopis Sloven. Akad. Vied.* Fyzikálny Časopis Slovenskej Akadémie Vied. (Bratislava)
- Gac. Mat. (Madrid).* Gaceta Matemática. (Madrid)
- Gamogenez. Math. Inst. Sem. Mošsen. Anotacie.* Tbilisis Universiteti. Gamogenezbithi Matematikis Institutis Seminari. Mošsenbathas Anotaciebi. (Tbilisi) (Also listed as: *Sem. Inst. Prikl. Mat. Annotac. Doklady*)
- Gapita.* Gapita (Mathematics). Bharat Gapita Parishad (Benares Mathematical Society). (Lucknow)
- Gaz. Mat. (Lisboa).* Gazeta de Matemática. (Lisbon)
- Gaz. Mat. Ser. A.* Societatea de Științe Matematice din R. P. R. Gazeta Matematică. Publicație Pentru Studiul și Răspîndirea Științelor Matematice. Seria A. (Bucharest)
- General Relativity and Gravitation.* General Relativity and Gravitation. (London)
- General Topology and Appl.* General Topology and its Applications. (Amsterdam)
- Geodast. Inst. Medd.* Geodætisk Institut. Meddelelne. (Copenhagen)
- Geodes. and Aerophot.* Geodesy and Aerophotography. (Washington, D.C.) (Translation of *Izv. Vysš. Učebn. Zaved. Geod. i Aerofot.*)
- \*Geometriae Dedicata.* Geometriae Dedicata. (Dordrecht)
- Gidraeromeh. i Teor. Uprugosti.* Gidraeromehanika i Teorija Uprugosti. (Kharkov)
- Giorn. Ist. Ital. Attuari.* Giornale dell'Istituto Italiano degli Attuari. (Rome)
- Giorn. Mat. Battaglini.* Giornale di Matematiche di Battaglini. (Naples)
- Glasgow Math. J.* Glasgow Mathematical Journal. (Glasgow)
- Glasnik Mat. Ser. III.* Društvo Matematičara i Fizičara S. R. Hrvatske. Glasnik Matematički. Serija III. (Zagreb)
- Godišnik Inž.-Stroitel. Inst.* Godišnik na Inžerno-Stroitel'nija Institut. (Sofia)
- Godišnik Visš. Himikotehn. Inst. (Burgas).* Godišnik Visšija Himikotehnologičeskii Institut. Burgas. (Sofia)
- Godišnik Visš. Tehn. Učebn. Zaved. Fiz.* Godišnik na Visšite Tehničeski Učebni Zavedenija. Fizika. (Sofia)
- Godišnik Visš. Tehn. Učebn. Zaved. Mat.* Godišnik na Visšite Tehničeski Učebni Zavedenija. Matematika. (Sofia)
- Godišnik Visš. Tehn. Učebn. Zaved. Priložna Meh.* Godišnik na Visšite Tehničeski Učebni Zavedenija. Priložna Mehanika. (Sofia)
- Godišnjak Filozof. Fak. u Novom Sadu.* Godišnjak Filozofskog Fakulteta u Novom Sadu. (Novi Sad) (Continued as: *Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.*)
- Gor'kov. Gos. Univ. Učen. Zap.* Gor'kovskii Gosudarstvennyi Universitet. Učenyje Zapiski. (Gorki)
- Gruz. Politehn. Inst. Trudy.* Gruzinskii Politehničeskii Institut im. V. I. Lenina. Trudy. (Tbilisi) See *V. I. Lenin. Sakharth. Politikh. Inst. Šrom.*
- Helv. Phys. Acta.* Helvetica Physica Acta. Societas Physicæ Helveticae Commentaria Publica. (Basel)
- Hiroshima Math. J.* Hiroshima Mathematical Journal. (Hiroshima)
- Hist. of Sci.* History of Science. An Annual Review of Literature, Research, and Teaching. (Cambridge, England)
- Hitotsubashi J. Arts Sci.* Hitotsubashi Journal of Arts & Sciences, Hitotsubashi University. (Tokyo)
- \*Hokkaido Math. J.* Hokkaido Mathematical Journal. (Sapporo) (Formerly: *J. Fac. Sci. Hokkaido Univ. Ser. I.*)
- IBM J. Res. Develop.* IBM Journal of Research and Development. (New York)
- IBM Systems J.* International Business Machines Corporation. IBM Systems Journal. (Armonk, N.Y.)
- Icarus.* Icarus. International Journal of the Solar System. (New York)
- IEEE Trans. Aerospace and Electron. Systems.* IEEE Transactions on Aerospace and Electronic Systems. (New York)
- IEEE Trans. Antennas and Propagation.* IEEE Transactions on Antennas and Propagation. (New York)
- IEEE Trans. Automatic Control.* IEEE Transactions on Automatic Control. (New York)

# ABBREVIATIONS OF NAMES OF JOURNALS

- IEEE Trans. Circuit Theory.* IEEE Transactions on Circuit Theory. (New York)
- IEEE Trans. Comm. Tech.* IEEE Transactions on Communication Technology. (New York)
- IEEE Trans. Computers.* IEEE Transactions on Computers. (New York)
- IEEE Trans. Geosci. Electronics.* IEEE Transactions on Geoscience Electronics. (New York)
- IEEE Trans. Information Theory.* IEEE Transactions on Information Theory. (New York)
- IEEE Trans. Systems, Man, and Cybernet.* IEEE Transactions on Systems, Man, and Cybernetics. (New York)
- Illinois J. Math.* Illinois Journal of Mathematics. (Urbana, Ill.)
- Indag. Math.* Indagationes Mathematicae. See *Nederl. Akad. Wetensch. Indag. Math.*
- Indian J. Engrg. Math.* Indian Journal of Engineering Mathematics. (Agra)
- Indian J. History Sci.* Indian Journal of History of Science. National Institute of Sciences of India. (New Delhi)
- Indian J. Math.* Indian Journal of Mathematics. (Allahabad)
- Indian J. Mech. Math.* Indian Journal of Mechanics and Mathematics. (Calcutta)
- Indian J. Pure Appl. Math.* Indian Journal of Pure and Applied Mathematics. (New Delhi)
- Indiana Univ. Math. J.* Indiana University Mathematics Journal. (Bloomington, Ind.)
- Indust. Math.* Industrial Mathematics. (Detroit, Mich.)
- INFOR—Canad. J. Operational Res. and Information Processing.* INFOR. Canadian Journal of Operational Research and Information Processing. (Toronto)
- Informác.-Elektron.* Információ-Elektronika. A Központi Statisztikai Hivatal Polyóirata. (Budapest)
- Information and Control.* Information and Control. (New York)
- Information Processing in Japan.* Information Processing in Japan. (Tokyo)
- Information Processing Lett.* Information Processing Letters. (Amsterdam)
- Information Sci.* Information Sciences. An International Journal. (New York)
- Inst. Gulbenkian Ci. Centro Cálcl. Ci. Estud. Program. Anál. Numér.* Fundação Calouste Gulbenkian. Instituto Gulbenkian de Ciência. Centro de Cálculo Científico. Estudos de Programação e Análise Numérica. (Lisbon)
- Inst. Hautes Études Sci. Publ. Math.* Institut des Hautes Études Scientifiques. Publications Mathématiques. (Paris)
- Internat. Econom. Rev.* International Economic Review. (Osaka-Philadelphia, Pa.)
- \*Internat. J. Bio-Med. Comput.* International Journal of Bio-Medical Computing. (Essex)
- \*Internat. J. Comput. Information Sci.* International Journal of Computer and Information Sciences. (New York)
- Internat. J. Comput. Math.* International Journal of Computer Mathematics. (New York)
- Internat. J. Control.* International Journal of Control. (London)
- Internat. J. Electron.* International Journal of Electronics. (London)
- Internat. J. Engrg. Sci.* International Journal of Engineering Science. (Oxford-New York)
- Internat. J. Game Theory.* International Journal of Game Theory. (Vienna)
- Internat. J. Man-Machine Studies.* International Journal of Man-Machine Studies. (London)
- Internat. J. Non-Linear Mech.* International Journal of Non-Linear Mechanics. (New York)
- Internat. J. Numer. Methods Engrg.* International Journal for Numerical Methods in Engineering. (London)
- Internat. J. Solids and Structures.* International Journal of Solids and Structures. (New York)
- Internat. J. Systems Sci.* International Journal of Systems Science. (London)
- Internat. J. Theoret. Phys.* International Journal of Theoretical Physics. (London)
- Internat. Logic Rev.* International Logic Review. Rassegna Internazionale di Logica. (Bologna)
- Internat. Statist. Rev.* International Statistical Review. Revue Internationale de Statistique. (London) (Formerly: *Rev. Inst. Internat. Statist.*)
- Invent. Math.* Inventiones Mathematicae. (Berlin)
- Inž.-Stroitel. Inst. Kulbyšev. Sb. Trudov.* Moskovskii Ordena Trudovogo Krasnogo Znameni Inženerno-Stroitel'nyi Institut im. V. V. Kulbyševa. Sbornik Trudov. (Moscow)
- Inž. Ž. Meh. Tverd. Tela.* Inženernyi Zhurnal. Mehanika Tverdogo Tela. (Moscow) (Continued as: *Izv. Akad. Nauk SSSR Meh. Tverd. Tela*)
- \*Irkutsk. Politehn. Inst. Trudy.* Glavnoe Upravlenie Politehničeskikh, Mašinostroitel'nykh i Energetičeskikh VUZov. Irkutskii Politehničeskii Institut. Trudy. (Irkutsk)
- Isis.* Isis. An International Review Devoted to the History of Science and Civilization. (Cambridge, Mass.)
- Israel J. Math.* Israel Journal of Mathematics. (Jerusalem)
- Ist. Lombardo Accad. Sci. Lett. Rend. A.* Istituto Lombardo. Accademia di Scienze e Lettere. Rendiconti. Scienze Matematiche, Fisiche, Chimiche e Geologiche. A. (Milan)
- Ist. Veneto Sci. Lett. Arti Alti Cl. Sci. Mat. Natur.* Istituto Veneto de Scienze, Lettere ed Arti. Venezia. Atti. Classe de Scienze Matematiche e Naturali. (Venice)
- Istanbul Tek. Üniv. Bül.* İstanbul Teknik Üniversitesi Bülteni. Bulletin of the Technical University of Istanbul. (Istanbul)
- Istanbul Üniv. Fen Fak. Mecm. Ser. A.* İstanbul Üniversitesi Fen Fakültesi Mecmuası. A Serisi: Sırf ve Tatbiki Matematik. Revue de la Faculté des Sciences de l'Université d'Istanbul. Série A: Mathématiques Pures et Appliquées. (Istanbul)
- Istor.-Astronom. Issled.* Istoriko-Astronomičeskie Issledovaniia. (Moscow)
- Istor.-Mat. Issled.* Istoriko-Matematičeskie Issledovaniia. (Moscow-Leningrad)
- Ivanov. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosveščeniia RSFSR. Ivanovskii Gosudarstvennyi Pedagogičeskii Institut im. D. A. Furmanova. Ivanovskoe Matematičeskoe Obščestvo. Učenyje Zapiski. (Ivanovo)
- Izv. Acad. Sci. USSR Atmospher. Ocean. Phys.* Izvestiya Academy of Sciences USSR. Atmospheric and Oceanic Physics. (Washington, D.C.) (Translation of *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. i Okeana*)
- Izv. Acad. Sci. USSR Phys. Solid Earth.* Izvestiya Academy of Sciences USSR. Physics of the Solid Earth. (Washington, D.C.) (Translation of *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli*)
- Izv. Akad. Nauk Armjan. SSR Ser. Fiz.* Izvestija Akademii Nauk Armjanskoi SSR. Serija Fizika. (Erevan)
- Izv. Akad. Nauk Armjan. SSR Ser. Mat.* Izvestija Akademii Nauk Armjanskoi SSR. Serija Matematika. (Erevan)
- Izv. Akad. Nauk Armjan. SSR Ser. Meh.* Izvestija Akademii Nauk Armjanskoi SSR. Serija Mehanika. (Erevan)
- Izv. Akad. Nauk Azerbaidžan. SSR Ser. Fiz.-Tehn. Mat. Nauk.* Izvestija Akademii Nauk Azerbaidžanskoi SSR. Serija Fiziko-Tehničeskikh i Matematičeskikh Nauk. (Baku)



ABBREVIATIONS OF NAMES OF JOURNALS

- Izv. Akad. Nauk Kazah. SSR Ser. Fiz.-Mat.* *Izvestija Akademii Nauk Kazahskoi SSR. Serija Fiziko-Matematičeskaja.* (Alma-Ata)
- Izv. Akad. Nauk Kirgiz. SSR.* *Izvestija Akademii Nauk Kirgizskoi SSR.* (Frunze)
- Izv. Akad. Nauk Moldav. SSR = Bul. Akad. Științe RSS Moldoven.*
- \**Izv. Akad. Nauk SSSR Meh. Tverd. Tela.* *Izvestija Akademii Nauk SSSR. Mehanika Tverdogo Tela.* (Moscow) (Formerly listed as: *Inf. Ž. Meh. Tverd. Tela*) (Translated as: *Mechanics of Solids*)
- Izv. Akad. Nauk SSSR Ser. Fiz. Atmosf. i Okeana.* *Izvestija Akademii Nauk SSSR. Serija Fizika Atmosfery i Okeana.* (Moscow) (Translated as: *Izv. Acad. Sci. USSR Atmospher. Ocean. Phys.*)
- Izv. Akad. Nauk SSSR Ser. Fiz. Zemli.* *Izvestija Akademii Nauk SSSR Serija Fizika Zemli.* (Moscow) (Translated as: *Izv. Acad. Sci. USSR Phys. Solid Earth*)
- Izv. Akad. Nauk SSSR Ser. Mat.* *Izvestija Akademii Nauk SSSR. Serija Matematičeskaja.* (Moscow) (Translated as: *Math. USSR-Izv.*)
- Izv. Akad. Nauk SSSR Ser. Meh. Židk. Gaza.* *Akademija Nauk SSSR. Izvestija Akademii Nauk SSSR. Serija Mehanika Židkosti i Gaza.* (Moscow) (Translated as: *Fluid Dynamics*)
- Izv. Akad. Nauk SSSR Tehn. Kibernet.* *Izvestija Akademii Nauk SSSR. Tehničeskaja Kibernetika.* (Moscow) (Translated as: *Engng. Cybernetics*)
- Izv. Akad. Nauk Tadžik. SSR Otdel. Fiz.-Mat. i Geolog.-Him. Nauk.* *Izvestija Akademii Nauk Tadžikskoi SSR. Otdelenie Fiziko-Matematičeskikh i Geologo-Himičeskikh Nauk.* (Dushanbe)
- Izv. Akad. Nauk Turkmen. SSR Ser. Fiz.-Tehn. Him. Geol. Nauk.* *Izvestija Akademii Nauk Turkmenskoi SSR. Serija Fiziko-Tehničeskikh, Himičeskikh i Geologičeskikh Nauk.* (Ashkhabad)
- Izv. Akad. Nauk UzSSR Ser. Fiz.-Mat. Nauk.* *Izvestija Akademii Nauk UzSSR. Serija Fiziko-Matematičeskikh Nauk.* UzSSR Fanlar Akademijasining Ahboroti. *Fizika-Matematika Fanlari Serijasi.* (Tashkent)
- Izv. Kazan. Fil. Akad. Nauk SSSR Ser. Fiz.-Mat. i Tehn. Nauk.* *Izvestija Kazanskogo Filiala Akademii Nauk SSSR. Serija Fiziko-Matematičeskikh i Tehničeskikh Nauk.* (Kazan)
- Izv. Sibirsk. Otdel. Akad. Nauk SSSR.* *Izvestija Sibirskogo Otdelenija Akademii Nauk SSSR.* (Novosibirsk)
- Izv. Tomsk. Politehn. Inst.* *Izvestija Tomskogo Ordena Trudovogo Krasnogo Znamenii Politehničeskogo Instituta imeni S.M. Kirova.* (Tomsk)
- Izv. Vuzov = Izv. Vyssh. Učebn. Zaved. Matematika.*
- Izv. Vyssh. Učebn. Zaved. Aviacion. Tehn.* Ministerstvo Vysshogo i Srednego Special'nogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii. Aviacionnaja Tehnika.* (Kazan) (Translated as: *Soviet Aeronaut.*)
- Izv. Vyssh. Učebn. Zaved. Elektromehanika.* Ministerstvo Vysshogo i Srednego Special'nogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii. Elektromehanika.* (Novocherkassk)
- Izv. Vyssh. Učebn. Zaved. Fizika.* Ministerstvo Vysshogo i Srednego Special'nogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii Fizika.* (Tomsk) (Translated as: *Soviet Physics J.*)
- Izv. Vyssh. Učebn. Zaved. Geod. i Aerofot.* Ministerstvo Vysshogo i Srednego Special'nogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii. Geodezija i Aerofotos'emka.* (Moscow) (Translated as: *Geodes. and Aerophot.*)
- Izv. Vyssh. Učebn. Zaved. Matematika.* Ministerstvo Vysshogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii. Matematika.* (Kazan)
- Izv. Vyssh. Učebn. Zaved. Radiofizika.* Ministerstvo Vysshogo i Srednego Special'nogo Obrazovaniya SSSR. *Izvestija Vyssh. Učebnyh Zavedenii. Radiofizika.* (Gorki) (Translated as: *Radiophys. and Quantum Electronics*)
- J. Algebra.* *Journal of Algebra.* (New York)
- J. Amer. Statist. Assoc.* *Journal of the American Statistical Association.* (Washington, D.C.)
- J. Analyse Math.* *Journal d'Analyse Mathématique.* (Jerusalem)
- J. Annamalai Univ. Part B Sci.* *Journal of the Annamalai University. Part B. Sciences.* (Annamalainagar)
- J. Appl. Math. Mech.* *Journal of Applied Mathematics and Mechanics.* (Translation of the Soviet journal *Prikladnaja Matematika i Mehanika*). (New York) (Translation of *Prikl. Mat. Meh.*)
- J. Appl. Mech. Tech. Phys.* *Journal of Applied Mechanics and Technical Physics.* (New York) (Translation of *Ž. Prikl. Meh. i Tehn. Fiz.*)
- J. Appl. Probability.* *Journal of Applied Probability.* (Sheffield)
- J. Approximation Theory.* *Journal of Approximation Theory.* (New York)
- J. Assoc. Comput. Mach.* *Journal of the Association for Computing Machinery.* (New York)
- J. Astronaut. Sci.* *American Astronautical Society. Journal of the Astronautical Sciences.* (Baltimore, Md.)
- J. Atmospheric Sci.* *Journal of the Atmospheric Sciences.* (Boston, Mass.)
- J. Austral. Math. Soc.* *The Journal of the Australian Mathematical Society.* (Sydney)
- J. Birla Inst. Tech. and Sci. (Pilani).* *Journal of the Birla Institute of Technology and Science.* (Pilani)
- J. Chem. Phys.* *The Journal of Chemical Physics.* (New York)
- J. China Univ. Sci. Techn.* *Journal of the China University of Science and Technology. Zhongguo Kexue Jishu Daxue Xuebao.* (Peking)
- J. Combinatorial Theory Ser. A.* *Journal of Combinatorial Theory. Series A.* (New York)
- J. Combinatorial Theory Ser. B.* *Journal of Combinatorial Theory. Series B.* (New York)
- J. Comput. System Sci.* *Journal of Computer and Systems Sciences.* (New York)
- J. Computational Phys.* *Journal of Computational Physics.* (New York)
- J. Cuneiform Studies.* *Journal of Cuneiform Studies.* (New Haven, Conn.)
- \**J. Cybernet.* *Journal of Cybernetics. Transactions of the American Society for Cybernetics.* (Washington, D.C.) (Contents include translations from related Japanese and Russian journals.)
- J. Differential Equations.* *Journal of Differential Equations.* (New York)
- J. Differential Geometry.* *Journal of Differential Geometry.* (Bethlehem, Pa.)
- J. Elisha Mitchell Sci. Soc.* *Journal of the Elisha Mitchell Scientific Society.* (Chapel Hill, N.C.)
- J. Engng. Math.* *Journal of Engineering Mathematics.* (Groningen)
- J. Fac. Engng. Chiba Univ.* *Journal of the Faculty of Engineering, Chiba University.* (Chiba)
- J. Fac. Engng. Univ. Tokyo Ser. B.* *Journal of the Faculty of Engineering. University of Tokyo. Series B.* (Tokyo)
- J. Fac. Sci. Hokkaido Univ. Ser. I.* *Journal of the Faculty of Science. Hokkaido University. Series I. Mathematics.* (Sapporo) (Continued as: *Hokkaido Math. J.*)
- J. Fac. Sci. Shinshu Univ.* *Journal of the Faculty of Science. Shinshu University.* (Matsumoto)
- J. Fac. Sci. Univ. Tokyo Sect. I A Math.* *Journal of the Faculty of Science. University of Tokyo. Section I A. Mathematics.* (Tokyo)
- J. Fluid Mech.* *Journal of Fluid Mechanics.* (London)

# ABBREVIATIONS OF NAMES OF JOURNALS

- J. Franklin Inst.* Journal of the Franklin Institute. (Philadelphia, Pa.)
- J. Functional Analysis.* Journal of Functional Analysis. (New York)
- J. Geometry.* Journal of Geometry. (Basel)
- J. Hist. Astronom.* Journal for the History of Astronomy. (London)
- \**J. Hokkaido Univ. Ed. Sect. II A.* Journal of Hokkaido University of Education. Section II A. (Sapporo)
- J. Indian Math. Soc.* The Journal of the Indian Mathematical Society. (Madras)
- J. Indian Statist. Assoc.* Journal of the Indian Statistical Association. (Bombay)
- J. Inst. Math. Appl.* Journal of the Institute of Mathematics and its Applications. (New York)
- J. Internat. Assoc. Mathematical Geol.* Journal of the International Association for Mathematical Geology. (New York)
- J. Japan Statist. Soc.* Journal of the Japan Statistical Society (Nihon Tōkei Gakkai Kaihō). (Tokyo)
- J. Karnatak Univ. Sci.* Journal of the Karnatak University. Science. (Dharwar)
- J. Korean Math. Soc.* Journal of the Korean Mathematical Society. (Seoul)
- J. London Math. Soc.* The Journal of the London Mathematical Society. (London)
- J. Low Temp. Phys.* Journal of Low Temperature Physics. (New York)
- J. Madras Univ. B.* Journal of the Madras University. B. Contributions in Mathematics, Physical and Biological Sciences. (Madras)
- J. Math. Anal. Appl.* Journal of Mathematical Analysis and Applications. (New York)
- J. Math. (Jabalpur).* Journal of Mathematics. (Jabalpur)
- J. Math. Kyoto Univ.* Journal of Mathematics of Kyoto University. (Kyoto)
- J. Math. Pures Appl.* Journal de Mathématiques Pures et Appliquées. (Paris)
- J. Math. Sci.* Journal of Mathematical Sciences. The Society of Mathematical Sciences. (Delhi)
- J. Math. Soc. Japan.* Journal of the Mathematical Society of Japan. (Tokyo)
- J. Math. Tokushima Univ.* Journal of Mathematics. Tokushima University. (Tokushima)
- J. Mathematical and Physical Sci.* Journal of Mathematical and Physical Sciences. (Madras)
- J. Mathematical Phys.* Journal of Mathematical Physics. (New York)
- J. Mathematical Psychology.* Journal of Mathematical Psychology. (New York)
- J. Mécanique.* Journal de Mécanique. (Paris)
- J. Mech. Phys. Solids.* Journal of the Mechanics and Physics of Solids. (London)
- J. Multivariate Anal.* Journal of Multivariate Analysis. (New York)
- J. Nanyang Univ.* Journal of Nanyang University. (Singapore) (Continued as: *Nanyang Univ. J. Part I*)
- J. Natur. Sci. and Math.* The Journal of Natural Sciences and Mathematics. (Lahore)
- J. Nuclear Sci. and Tech.* Journal of Nuclear Science and Technology. (Tokyo)
- J. Number Theory.* Journal of Number Theory. (New York)
- J. of M.A.C.T.* Journal of the Maulana Azad College of Technology. (Bhopal)
- J. Operations Res. Soc. Japan.* Journal of the Operations Research Society of Japan. (Tokyo)
- J. Opt. Soc. Amer.* Journal of the Optical Society of America. (New York)
- J. Optimization Theory Appl.* Journal of Optimization Theory and Applications. (New York)
- J. Philos. Logic.* Journal of Philosophical Logic. (Dordrecht)
- J. Phys. A.* Journal of Physics A. General Physics. (London)
- J. Phys. B.* Journal of Physics B. Atomic and Molecular Physics. (London)
- J. Phys. Soc. Japan.* Journal of the Physical Society of Japan. (Tokyo)
- J. Physique.* Le Journal de Physique. (Paris)
- J. Pure Appl. Algebra.* Journal of Pure and Applied Algebra. (Amsterdam)
- J. Recreational Math.* Journal of Recreational Mathematics. (Westport, Conn.)
- J. Reine Angew. Math.* Journal für die reine und angewandte Mathematik. (Berlin)
- J. Res. Nat. Bur. Standards Sect. B.* Journal of Research of the National Bureau of Standards. Section B. Mathematical Sciences. (Washington, D.C.)
- J. Roy. Statist. Soc. Ser. A.* Journal of the Royal Statistical Society. Series A (General). (London)
- J. Roy. Statist. Soc. Ser. B.* Journal of the Royal Statistical Society. Series B (Methodological). (London)
- J. Roy. Statist. Soc. Ser. C Appl. Statist.* Journal of the Royal Statistical Society. Series C. Applied Statistics. (London)
- J. Sci. Engrg. Res.* Journal of Science and Engineering Research. (Kharagpur)
- J. Sci. Res. Banaras Hindu Univ.* The Journal of Scientific Research of the Banaras Hindu University. (Varanasi)
- J. Statist. Comp. and Simulation.* Journal of Statistical Computation and Simulation. (New York)
- J. Statist. Phys.* Journal of Statistical Physics. (New York)
- \**J. Statist. Res.* Journal of Statistical Research. (Dacca) (Formerly: *Bull. Inst. Statist. Res. Training*)
- J. Symbolic Logic.* The Journal of Symbolic Logic. (Providence, R.I.)
- J. Tech. Bengal Engrg. College.* Journal of Technology. Bengal Engineering College. (Howrah)
- J. Theoret. Biol.* Journal of Theoretical Biology. (London)
- J. Tsing Hua Univ.* Journal of Tsing Hua University. (Peking)
- J. Univ. Bombay.* Journal of the University of Bombay. (Bombay)
- J. Warburg and Courtauld Inst.* Journal of the Warburg and Courtauld Institutes. (London)
- Jadernaja Fiz.* Akademija Nauk SSSR. Jadernaja Fizika. (Moscow) (Translated as: *Soviet J. Nuclear Phys.*)
- Janus.* Janus. Revue Internationale de l'Histoire des Sciences, de la Médecine, de la Pharmacie et de la Technique. (Leiden)
- Japan. J. Math.* Science Council of Japan. Japanese Journal of Mathematics. (Tokyo)
- Jaroslav. Gos. Ped. Inst. Dokl. Naučn. Konfer.* Jaroslavskij Gosudarstvennyj Pedagogičeskij Institut. Doklady na Naučnyh Konferencijah. (Jaroslavl')
- Jaroslav. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosveščeniya RSFSR. Jaroslavskij Gosudarstvennyj Pedagogičeskij Institut imeni K. D. Ušinskogo. Učenyje Zapiski. (Jaroslavl')
- Jber. Deutsch. Math.-Verein.* Jahresbericht der Deutschen Mathematiker-Vereinigung. (Stuttgart)

ABBREVIATIONS OF NAMES OF JOURNALS

- Jānabha Sect. A. Jānabha. Section A. Dayanand Vedic Post-graduate College. Kanpur University. (Orai)*
- Kabardino-Balkarsk. Gos. Univ. Učen. Zap. Kabardino-Balkarskii Gosudarstvennyi Universitet. Učenyi Zapiski. (Nalchik)*
- Kalinin. Gos. Ped. Inst. Učen. Zap. Kalininskii Gosudarstvennyi Pedagogičeskii Institut im. M. I. Kalinina. Učenyi Zapiski. (Kalinin)*
- Kaliningrad. Gos. Ped. Inst. Učen. Zap. Kaliningradskii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Kaliningrad)*
- Kaliningrad. Gos. Univ. Učen. Zap. Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniia RSFSR. Kaliningradskii Gosudarstvennyi Universitet. Učenyi Zapiski. (Kaliningrad)*
- Karachi Math. Assoc. Riazi (Souvenir). Riazi. Souvenir of the Karachi Mathematics Association. (Karachi)*
- Kazakh. Gos. Ped. Inst. Učen. Zap. Kazahskii Gosudarstvennyi Pedagogičeskii Institut im. Abaja. Učenyi Zapiski. (Alma-Ata) (May also appear as: Alma-Atin. Gos. Ped. Inst. Učen. Zap.)*
- Kazan. Gos. Univ. Učen. Zap. Kazanskii Ordena Trudovogo Krasnogo Znamenii Gosudarstvennyi Universitet im. V. I. Ul'janova-Lenina. Učenyi Zapiski. (Kazan)*
- Keio-Kagaku. Keio-Kagaku (Management Science). Japanese Operations Research Association. (Tokyo)*
- Keio Engrg. Rep. Keio Engineering Reports. (Tokyo) (Formerly: Proc. Fac. Engrg. Keio Univ.)*
- Kemerov. Gos. Ped. Inst. Učen. Zap. Kemerovskii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Kemerovo)*
- Kentŭ Kiyō—Gakushūin Kōtōka. Memoirs of Gakushūin High School. (Tokyo)*
- Kexue Tongbao. Chinese Academy of Science. Kexue Tongbao (Science Bulletin). (Peking)*
- Kexue Tongbao (Foreign Lang. Ed.). Academia Sinica. Kexue Tongbao (Science Bulletin) (Foreign Language Edition). (Peking)*
- Kibernetika (Kiev). Otdelenie Matematiki, Mehaniki i Kibernetiki Akademii Nauk Ukrainskoi SSR. Kibernetika. (Kiev) (Translated as: Cybernetics)*
- Kirov. Gos. Ped. Inst. Učen. Zap. Kirovskii Gosudarstvennyi Pedagogičeskii Institut imeni V. I. Lenina. Učenyi Zapiski. (Yoshkar-Ola)*
- Kišinev. Gos. Univ. Učen. Zap. Ministerstvo Narodnogo Obrazovaniia Moldavskoi SSR. Kišinevskii Gosudarstvennyi Universitet. Učenyi Zapiski. (Kišinev)*
- Knižnice Odborn. Věd. Spisů Vysoké. Učení Tech. v Brně. Knižnice Odborných a Vědeckých Spisů Vysokého Učení Technického v Brně. Vysoké Učení Technické v Brně. (Brno)*
- Kōdai Math. Sem. Rep. Kōdai Mathematical Seminar Reports. (Tokyo)*
- Kolomen. Ped. Inst. Učen. Zap. Ministerstvo Prosvěšeniia RSFSR. Kolomenskii Pedagogičeskii Institut. Učenyi Zapiski. (Kolomna)*
- Kombinatornyi Anal. Kombinatornyi Analiz. Moskovskii Gosudarstvennyi Universitet im. M. V. Lomonosova. (Moscow)*
- Kostrom. Gos. Ped. Inst. Učen. Zap. Kostromskoi Gosudarstvennyi Pedagogičeskii Institut imeni N. A. Nekrasova. Učenyi Zapiski. (Jaroslavl)*
- Krasnodar. Gos. Ped. Inst. Naučn. Trudy. Krasnodarskii Gosudarstvennyi Pedagogičeskii Institut. Naučnye Trudy. (Krasnodar)*
- Kulbyšev. Gos. Ped. Inst. Učen. Zap. Ministerstvo Prosvěšeniia RSFSR. Kulbyševskii Gosudarstvennyi Pedagogičeskii Institut imeni V. V. Kulbyševa. Učenyi Zapiski. (Kuybyšev)*
- Kumamoto J. Sci. (Math.). Kumamoto Journal of Science (Mathematics). (Kumamoto) (Formerly: Kumamoto J. Sci. Ser. A)*
- Kumamoto J. Sci. Ser. A. Kumamoto Journal of Science. Series A (Mathematics, Physics and Chemistry). (Kumamoto)*
- Kursk. Gos. Ped. Inst. Učen. Zap. Kurskii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Belgorod)*
- Kybernetes. Kybernetika. An International Journal of Cybernetics and General Systems. (London)*
- Kybernetik (Berlin). Kybernetik. (Berlin)*
- Kybernetika (Prague). Kybernetika. (Prague)*
- Kyungpook Math. J. Kyungpook National University. Kyungpook Mathematical Journal. (Taegu)*
- Labdev—J. Sci. Tech. Part A. Labdev. Journal of Sciences and Technology. Part A—Physical Sciences. (Kanpur)*
- \*Laboratorio Anal. Numer. Consiglio Naz. Ricerche Pubbl. Laboratorio di Analisi Numerica del Consiglio Nazionale delle Ricerche. Pubblicazioni. (Pavia)*
- Latvijas PSR Zinātņu Akad. Vēstis. Latvijas PSR Zinātņu Akadēmijas Vēstis. Izvestija Akademii Nauk Latvīskoi SSR. (Riga)*
- Latvijas PSR Zinātņu Akad. Vēstis Fiz. Tehn. Zinātņu Sēr. Latvijas PSR Zinātņu Akadēmijas Vēstis. Fizikas un Tehnisko Zinātņu Sērija. Izvestija Akademii Nauk Latvīskoi SSR. Serija Fizičeskikh i Tehničeskikh Nauk. (Riga)*
- Latvijas Valsts Univ. Zinātn. Raksti. PSRS Augstākās Izglītības Ministrija. Pētera Stučkas Latvijas Valsts Universitāte. Zinātniskie Raksti. Ministerstvo Vysshego Obrazovaniia. Latvīskii Gosudarstvennyi Universitet im. Petra Stučki. Učenyi Zapiski. (Riga)*
- Leninabad. Gos. Ped. Inst. Učen. Zap. Leninabadskii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Dushanbe)*
- Leningrad. Gos. Ped. Inst. Učen. Zap. Leningradskii Gosudarstvennyi Pedagogičeskii Institut im. A. I. Gercena. Učenyi Zapiski. (Leningrad)*
- Leningrad. Gos. Univ. Učen. Zap. Ser. Mat. Nauk. Leningradskii Gosudarstvennyi Ordena Lenina Universitet imeni A. A. Ždanova. Učenyi Zapiski. Serija Matematičeskikh Nauk. (Leningrad)*
- Leningrad. Inž.-Ėkonom. Inst. Trudy. Leningradskii Inženerno-Ėkonomičeskii Institut imeni Pal'miro Tol'jatti. Trudy. (Leningrad)*
- Leningrad. Meh. Inst. Sb. Naučn. Trudov. Leningradskii Mehaničeskii Institut. Sbornik Naučnykh Trudov (LMI). (Leningrad)*
- Leningrad. Politehn. Inst. Trudy. Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniia RSFSR. Leningradskii Politehničeskii Institut im. M. I. Kalinina. Trudy LPI. (Leningrad)*
- Lett. Nuovo Cimento. Lettere al Nuovo Cimento. Rivista Internazionale della Società Italiana di Fisica. (Bologna)*
- Libyan J. Sci. The Libyan Journal of Science. (Tripoli)*
- Linear Algebra and Appl. Linear Algebra and its Applications. (New York)*
- Litovsk. Fiz. Sb. Lietuvos TSR Mokslų Akademija. Lietuvos TSR Aukštosių Mokyklų. Lietuvos Fizikos Rinkiny. Akademija Nauk Litovskoi SSR. Vyssie Školy Litovskoi SSR. Litovskii Fizičeskii Sbornik. (Vilnius)*
- Litovsk. Mat. Sb. Lietuvos TSR Mokslų Akademija. Lietuvos TSR Aukštosių Mokyklų. Lietuvos Matematikos Rinkiny. Akademija Nauk Litovskoi SSR. Vyssie Učebnye Zavedeniia Litovskoi SSR. Litovskii Matematičeskii Sbornik. (Vilnius)*
- Logique et Analyse. Logique et Analyse. (Louvain)*
- Lucrări Ști. Inst. Ped. Galați. Lucrări Științifice. Institutul Pedagogic Galați. (Galați)*
- L'ovsk. Politehn. Inst. Naučn. Zap. Ser. Fiz.-Mat. MVO USSR. L'ovskii Politehničeskii Institut. Naučnye Zapiski. Serija Fiziko-Matematičeskaja. (Lvov)*
- Magnetohydrodynamics. Magnetohydrodynamics. (A translation of Magnitnaya Gidrodinamika of the Academy of Sciences of the Latvian SSR). (New York) (Translation of Magnit. Gidrodinamika)*
- Magnit. Gidrodinamika. Akademija Nauk Latvīskoi SSR. Magnitnaja Gidrodinamika. (Riga) (Translated as: Magnetohydrodynamics)*



ABBREVIATIONS OF NAMES OF JOURNALS

- Magyar Tud. Akad. Mat. Fiz. Ost. Kész. A Magyar Tudományos Akadémia Matematikai és Fizikai Tudományok Osztályának Közleményei.* (Budapest)
- Makedon. Akad. Nauk. Umet. Oddel. Prirod.-Mat. Nauk. Prilozi.* Makedonska Akademija na Naukite i Umetnostite. Oddelenie za Prirodo-Matematički Nauki. Prilozi. (Skopje)
- Management Sci.* Management Science. Journal of the Institute of Management Science. (Philadelphia, Pa.)
- Manuscripta Math.* Manuscripta Mathematica. (Berlin)
- Mari. Gos. Ped. Inst. Učen. Zap.* Mariiskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Ioshkar-Ola)
- Mat. Časopis Sloven. Akad. Vied.* Matematički Časopis Slovenskei Akademije Vied. (Bratislava)
- Mat.-Fys. Medd. Danske Vid. Selsk.* Matematikfysiske Meddelelser udgivet af Det Kongelige Danske Videnskaberne Selskab. (Copenhagen)
- Mat.-Fys. Skr. Danske Vid. Selsk.* Matematikfysiske Skrifter udgivet af Det Kongelige Danske Videnskaberne Selskab. (Copenhagen)
- Mat. Isled.* Akademija Nauk Moldavskoi SSR. Institut Matematiki i Vychislitel'nym Centrom. Matematičeskie Isledovanija. (Kishinov)
- Mat. Lapok.* Matematikai Lapok. Bolyai János Matematikai Társulat. (Budapest)
- Mat. Sb.* Matematičeskii Sbornik. Novaja Serija. (Moscow) (Translated as: *Math. USSR-Sb.*)
- Mat. Vesnik.* Društvo Matematičara, Fizičara i Astronoma SRS i Matematički Institut-Beograd. Matematički Vesnik. Nova Serija. (Belgrade)
- Mat. Zametki.* Akademija Nauk Sojuza SSR. Matematičeskie Zametki. (Moscow) (Translated as: *Math. Notes*)
- Matematiche (Catania).* Le Matematiche. (Catania)
- Matematika—Period. Sb. Perevodov Inostran. Statei.* Matematika. Periodičeskii Sbornik Perevodov Inostrannykh Statei. (Moscow)
- Math. Algorithms.* Massachusetts Institute of Technology. Mathematical Algorithms. (Cambridge, Mass.)
- Math. Ann.* Mathematische Annalen. (Berlin)
- Math. Balkanica.* Mathematica Balkanica. (Belgrade)
- Math. Biosci.* Mathematical Biosciences: An International Journal. (New York)
- Math. Centrum Amsterdam Afd. Toegepaste Wisk.* Mathematisch Centrum Amsterdam. Afdeling Toegepaste Wiskunde. (Amsterdam)
- Math. Centrum Amsterdam Afd. Zuivere Wisk.* Mathematisch Centrum Amsterdam. Afdeling Zuivere Wiskunde. (Amsterdam)
- Math. Centrum Amsterdam Rekenafdeling.* Mathematisch Centrum Amsterdam. Rekenafdeling. (Amsterdam)
- Math. Chronicle.* Mathematical Chronicle. (Auckland)
- Math. Comp.* Mathematics of Computation. (Providence, R.I.)
- Math. Education.* The Mathematics Education. (Siwan)
- Math. Gaz.* The Mathematical Gazette. (London)
- Math. J. Okayama Univ.* Mathematical Journal of Okayama University. (Okayama)
- Math. Japon.* Mathematica Japonicae. (Kobe)
- Math. Mag.* Mathematics Magazine. (Buffalo, N.Y.)
- Math. Nachr.* Mathematische Nachrichten. (Berlin)
- Math. Notas.* Mathematicae Notae. Boletín del Instituto de Matemática. (Rosario)
- Math. Notes.* Mathematical Notes of the Academy of Sciences of the USSR. (New York) (Translation of *Mat. Zametki*)
- Math. Operationsforsch. Statist.* Mathematische Operationsforschung und Statistik. (Berlin)
- Math.-Phys. Semesterber.* Mathematisch-Physikalische Semesterberichte. (Göttingen)
- Math. Programming.* Mathematical Programming. (Amsterdam)
- Math. Rep. College General Ed. Kyushu Univ.* Mathematical Reports of College of General Education Kyushu University. (Fukuoka)
- Math. Reviews.* Mathematical Reviews. (Providence, R.I.) (Usually abbreviated as *MR* in the text of *Math. Reviews*)
- Math. Scand.* Mathematica Scandinavica. (Copenhagen)
- Math. Sci. Humaines.* Centre de Mathématique Sociale et de Statistique EPHE. Mathématiques et Sciences Humaines. (Paris)
- Math. Seminar.* The Mathematics Seminar. (Delhi)
- Math. Student.* The Mathematics Student. (Madras)
- Math. Systems Theory.* Mathematical Systems Theory. (New York)
- Math. und Wirtschaft.* Mathematik und Wirtschaft. (Berlin)
- Math. USSR-Izv.* Mathematics of the USSR-Izvestija. (Providence, R.I.) (Translation of *Izv. Akad. Nauk SSSR Ser. Mat.*)
- Math. USSR-Sb.* Mathematics of the USSR-Sbornik. (Providence, R.I.) (Translation of *Mat. Sb.*)
- Math. Z.* Mathematische Zeitschrift. (Berlin)
- Mathematica (Cluj).* Societatea de Științe Matematice și Fizice din R.P.R. Filiala Cluj. Mathematica. (Cluj)
- Mathematika.* Mathematika. A Journal of Pure and Applied Mathematics. (London)
- Matrix Tensor Quart.* The Tensor Club of Great Britain. The Matrix and Tensor Quarterly. (London)
- Meccanica—J. Italian Assoc. Theoret. Appl. Mech.* Meccanica. Journal of the Italian Association of Theoretical and Applied Mechanics. (Milan)
- Mech. Teoret. Stos.* Polskie Towarzystwo Mechaniki Teoretycznej i Stosowanej. Mechanika Teoretyczna i Stosowana. (Warsaw)
- Mechanics of Solids.* Mechanics of Solids. (New York) (Translation of *Izv. Akad. Nauk SSSR Meh. Tverd. Tela*)
- Med. Konink. Acad. Wetensch. Lett. Schone Kunst. België Kl. Wetensch.* Mededelingen van de Koninklijke Academie voor Wetenschappen, Letteren en Schone Kunsten van België. Klasse der Wetenschappen. (Brussels)
- Medd. Lunds Univ. Mat. Sem.* Meddelanden från Lunds Universitets Matematiska Seminarium. Communications du Séminaire Mathématique de l'Université de Lund. (Lund)
- Mehanika-Period. Sb. Perevodov Inostran. Statei.* Mehanika Periodičeskii Sbornik Perevodov Inostrannykh Statei. (Moscow)
- Melekes. Gos. Ped. Inst. Učen. Zap.* Melekeskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Melekes)
- Mem. Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* Memorie dell'Accademia delle Scienze di Torino. Classe di Scienze Fisiche, Matematiche e Naturali. (Turin)
- Mem. Amer. Math. Soc.* Memoirs of the American Mathematical Society. (Providence, R.I.)
- Mem. Defense Acad.* Memoirs of the Defense Academy (Mathematics, Physics, Chemistry and Engineering) (Yokosuka)
- Mem. Ehime Univ. Natur. Sci. Ser. A.* Memoirs of the Ehime University. Natural Science. Series A. (Matsuyama)
- Mem. Fac. Ci. Univ. Habana Ser. Mat.* Memorias de la Facultad de Ciencias. Universidad de la Habana. Serie Matemática. (Havana)
- Mem. Fac. Ed. Kumamoto Univ. Sect. 1.* Memoirs of the Faculty of Education. Kumamoto University. Section 1. (Natural Science). (Kumamoto)
- Mem. Fac. Ed. Miyazaki Univ.* Memoirs of the Faculty of Education. Miyazaki University. (Miyazaki)

# ABBREVIATIONS OF NAMES OF JOURNALS

- Mem. Fac. Engrg. Hiroshima Univ.* Memoirs of the Faculty of Engineering. Hiroshima University. (Hiroshima)
- Mem. Fac. Engrg. Kyoto Univ.* Memoirs of the Faculty of Engineering. Kyoto University. (Kyoto)
- Mem. Fac. Engrg. Miyazaki Univ.* Memoirs of the Faculty of Engineering. Miyazaki University. (Miyazaki)
- Mem. Fac. Indust. Arts Kyoto Tech. Univ. Sci. and Tech.* Memoirs of the Faculty of Industrial Arts. Kyoto Technical University. Science and Technology. (Kyoto)
- Mem. Fac. Lit. Sci. Shimane Univ. Natur. Sci.* Memoirs of the Faculty of Literature and Science. Shimane University. Natural Sciences. (Matsue)
- Mem. Fac. Sci. Kyushu Univ. Ser. A.* Memoirs of the Faculty of Science. Kyushu University. Series A. Mathematics. (Fukuoka)
- Mem. Kitami Inst. Tech.* Memoirs of the Kitami Institute of Technology. (Kitami)
- Mem. Mat. Inst. "Jorge Juan".* Consejo Superior de Investigaciones Científicas. Memorias de Matemática del Instituto "Jorge Juan". (Madrid)
- Mem. Muroran Inst. Tech.* Memoirs of the Muroran Institute of Technology. (Muran)
- Mem. Osaka Inst. Tech. Ser. A.* Memoirs of the Osaka Institute of Technology. Series A. Science & Technology. (Osaka)
- Mem. Osaka Kyoiku Univ. III Natur. Sci. Appl. Sci.* Memoirs of Osaka Kyoiku University. III. Natural Science and Applied Science. (Osaka)
- Mem. Real Acad. Ci. Art. Barcelona.* Memorias de la Real Academia de Ciencias y Artes de Barcelona. (Barcelona)
- Mem. Real Acad. Ci. Exact. Fis. Natur. Madrid.* Memorias de la Real Academia de Ciencias Exactas, Físicas y Naturales de Madrid. Serie de Ciencias Exactas. (Madrid)
- \**Mem. School Engrg. Okayama Univ.* Memoirs of the School of Engineering Okayama University. (Okayama)
- Mem. School Sci. Engrg. Waseda Univ.* Memoirs of the School of Science and Engineering. Waseda University. (Tokyo)
- Mem. Soc. Astronom. Ital.* Memorie della Società Astronomica Italiana. (Milan)
- Mém. Soc. Roy. Sci. Liège Coll. in-8°.* Mémoires de la Société Royale des Sciences de Liège. Collection in-8°. (Liège)
- Mémor. Sci. Math.* Mémorial des Sciences Mathématiques. (Paris)
- Mémor. Sci. Phys.* Mémorial des Sciences Physiques. (Paris)
- Metody Vyčisl. Leningradskii Ordena Lenina Gosudarstvennyi Universitet imeni A. A. Ždanova. Kafedra Vyčislitel'noi Matematiki i Vyčislitel'nyi Centr. Metody Vyčislenii.* (Leningrad)
- Metrika.* Metrika. (Würzburg)
- Metroecon.* Metroeconomica. Rivista Internazionale di Economia. (Bologna)
- Metron.* Metron. (Rome)
- METU J. Pure Appl. Sci.* Middle East Technical University. Journal of Pure and Applied Sciences. Orta Doğu Teknik Üniversitesi. Temel ve Uygulamalı Bilimler Dergisi. (Ankara)
- Michigan Math. J.* The Michigan Mathematical Journal. (Ann Arbor, Mich.)
- Mind.* Mind. A Quarterly Review of Psychology and Philosophy. (Oxford)
- Mitt. Math. Gesellsch. Hamburg.* Mitteilungen der mathematischen Gesellschaft in Hamburg. (Hamburg)
- Mitt. Math. Sem. Giessen.* Mitteilungen aus dem Mathematischen Seminar Giessen. (Giessen)
- Mitt. Verein. Schweiz. Versich.-Math.* Mitteilungen der Vereinigung Schweizerischer Versicherungsmathematiker. Bulletin de l'Association des Actuaires Suisses. (Bern)
- Molecular Phys.* Molecular Physics. (London)
- Monatsh. Deutsch. Akad. Wiss. Berlin.* Monatsberichte der Deutschen Akademie der Wissenschaften zu Berlin. (Berlin)
- Monatsh. Math.* Monatshefte für Mathematik. (Vienna)
- \**Monografias Mat.* Monografias de Matemática. (Rio de Janeiro)
- \**Moscow Univ. Math. Bull.* Moscow University Mathematics Bulletin. (New York) (Translation of the mathematics section of *Vestnik Moskov. Univ. Ser. I Mat. Meh.*)
- Moscow Univ. Phys. Bull.* Moscow University Physics Bulletin. (New York) (Translation of the physics section of *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.*)
- \**Moskov. Aviacion. Inst. Ordžonikidze Trudy.* Moskovskii ordena Lenina Aviacionnyi Institut imeni Sergo Ordžonikidze. Trudy. (Moscow)
- Moskov. Gos. Ped. Inst. Učen. Zap.* Moskovskii Gosudarstvennyi Pedagogičeskii Institut im. V. I. Lenina. Učenyje Zapiski. (Moscow)
- Moskov. Gos. Univ. Soobšč. Gos. Astronom. Inst. Šternberg.* Moskovskii Gosudarstvennyi Universitet im. M. V. Lomonosova. Soobščeniya Gosudarstvennogo Astronomičeskogo Instituta im. P. K. Šternberga. (Moscow)
- Moskov. Gos. Univ. Trudy Gos. Astronom. Inst. Šternberg.* Moskovskii Gosudarstvennyi Universitet im. M. V. Lomonosova. Trudy Gosudarstvennogo Astronomičeskogo Instituta im. P. K. Šternberga. (Moscow)
- Moskov. Gos. Univ. Voprosy Meh.* Moskovskii Gosudarstvennyi Universitet. Voprosy Mehaniki. (Moscow)
- Moskov. Inst. Elektron. Mašinostroenija—Trudy MIEM.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya RSFSR. Moskovskii Institut Elektronnogo Mašinostroenija. Trudy MIEM. (Moscow)
- Moskov. Inst. Inž. Železnodorož. Transporta Trudy.* Moskovskii Institut Inženerov Železnodorožnogo Transporta. Trudy. (Moscow)
- Moskov. Oblast. Ped. Inst. Učen. Zap.* Moskovskii Oblastnoi Pedagogičeskii Institut. Učenyje Zapiski. (Moscow)
- Moskov. Zaočn. Ped. Inst. Učen. Zap.* Moskovskii Zaočnyi Pedagogičeskii Institut. Učenyje Zapiski. (Moscow)
- MR.* Mathematical Reviews. (Providence, R.I.)
- Muromsk. Gos. Ped. Inst. Učen. Zap.* Muromskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Vladimir)
- Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II.* Nachrichten der Akademie der Wissenschaften in Göttingen. II. Mathematisch-Physikalische Klasse. (Göttingen)
- \**Nachrichtentech.* Nachrichtentechnik. Technisch-wissenschaftliche Zeitschrift für Elektronik, Elektroakustik, Hochfrequenz- und Fernmeldetechnik. (Berlin)
- Nagoya Math. J.* Nagoya Mathematical Journal. (Nagoya)
- Nanta Math.* Nanyang University. Nanta Mathematica. (Singapore)
- Nanyang Univ. J. Part I.* Nanyang University Journal. Part I: Natural Sciences. (Singapore) (Formerly: *J. Nanyang Univ.*)
- Natur. Sci. Rep. Ochanomizu Univ.* Natural Science Report of the Ochanomizu University. (Tokyo)
- Naučn.-Tehn. Informacija (VINITI) Ser. 2. Informacionnye Processy i Sistemy.* Akademija Nauk SSSR. Vsesojuznyi Institut Naučno i Tehničkoj Informacii. Naučno-Tehničeskaja Informacija. Serija 2. Informacionnye Processy i Sistemy. (Moscow)
- Naval Res. Logist. Quart.* Naval Research Logistics Quarterly. (Washington, D.C.)
- NEC Res. Development.* NEC Research and Development (Technical Journal of Nippon Electric Co., Ltd.). (Tokyo)
- Nederl. Akad. Wetensch. Indag. Math.* Koninklijke Nederlandse Akademie van Wetenschappen. Indagationes Mathematicae ex Actis Quibus Titulus. Proceedings of the Section of Sciences. (Amsterdam) (Same as: *Nederl. Akad. Wetensch. Proc. Ser. A*)

ABBREVIATIONS OF NAMES OF JOURNALS

- Nederl. Akad. Wetensch. Proc. Ser. A.* Koninklijke Nederlandse Akademie van Wetenschappen. Proceedings. Series A. Mathematical Sciences. (Amsterdam) (Same as: *Nederl. Akad. Wetensch. Indag. Math.*)
- Nederl. Akad. Wetensch. Proc. Ser. B.* Koninklijke Nederlandse Akademie van Wetenschappen. Proceedings. Series B. Physical Sciences. (Amsterdam)
- Nederl. Akad. Wetensch. Verslag Afd. Natuurk.* Koninklijke Nederlandse Akademie van Wetenschappen. Verslag van de Gewone Vergadering van de Afdeling Natuurkunde. (Amsterdam)
- Networks.* Networks. An International Journal. (New York)
- New Zealand Math. Mag.* The New Zealand Mathematics Magazine. (Auckland)
- Nieuw Arch. Wisk.* Nieuw Archief voor Wiskunde. (Groningen)
- Nigerian J. Sci.* University of Ibadan. Nigerian Journal of Science. (Ibadan)
- Nordisk Mat. Tidsskr.* Nordisk Matematisk Tidsskrift. (Oslo)
- Nordisk Tidsskr. Informationsbehandling (BIT).* Nordisk Tidsskrift for Informationsbehandling. (Copenhagen)
- Norske Vid. Selsk. Forh. (Trondheim).* Det Kongelige Norske Videnskabs Selskabs Forhandling. (Trondheim)
- Norske Vid. Selsk. Skr. (Trondheim).* Det Kongelige Norske Videnskabs Selskabs Skrifter. (Trondheim)
- Notas Mat.* Notas de Matemática. (Rio de Janeiro)
- Notes and Records Roy. Soc. London.* Notes and Records of the Royal Society of London. (London)
- Notices Amer. Math. Soc.* Notices of the American Mathematical Society. (Providence, R.I.)
- Notre Dame J. Formal Logic.* Notre Dame Journal of Formal Logic. (Notre Dame, Ind.)
- Nods.* Nods. (Bloomington, Ind.)
- Nova Acta Leopoldina (N.F.).* Nova Acta Leopoldina. Abhandlungen der Deutschen Akademie der Naturforscher Leopoldina. Neue Folge. (Leipzig)
- Novgorod. Golovn. Gos. Ped. Inst. Učen. Zap.* Novgorodskii Golovnoi Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Novgorod)
- NTM Schr. Geschichte Naturwiss. Tech. Medizin.* NTM Schriftenreihe für Geschichte der Naturwissenschaften Technik und Medizin. (Leipzig)
- Nuclear Phys.* Nuclear Physics. (Amsterdam)
- Numer. Math.* Numerische Mathematik. (Berlin)
- Nuovo Cimento A.* Il Nuovo Cimento A. (Bologna)
- Nuovo Cimento B.* Il Nuovo Cimento B. (Bologna)
- Obs. Astronom. Univ. Nac. La Plata Ser. Astronom.* Observatorio Astronomico de la Universidad Nacional de La Plata. Serie Astronomica. (La Plata)
- Obzornik Mat. Fiz.* Društvo Matematikov, Fizikov in Astronomov SRS. Obzornik za Matematiko in Fiziko. (Ljubljana)
- Operational Res. Quart.* Operational Research Quarterly. (Bristol)
- Operations Res.* Operations Research. The Journal of the Operations Research Society of America. (Baltimore, Md.) (Sometimes abbreviated as *OR* in *Math. Reviews*)
- Opsearch.* Opsearch. The Journal of the Operational Research Society of India. (Delhi)
- Optica Acta.* Optica Acta. (London)
- Optimal. Planirovanie.* Optimal'noe Planirovanie. Akademija Nauk SSSR. Sibirskoe Otdelenie. Institut Matematiki. (Novosibirsk)
- \*Optimizacija.* Akademija Nauk SSSR. Sibirskoe Otdelenie. Institut Matematiki. Optimizacija. (Novosibirsk)
- OR.* Operations Research. The Journal of the Operations Research Society of America. (Baltimore, Md.)
- Orehovo-Zuev. Ped. Inst. Učen. Zap. Kaf. Mat.* Ministerstvo Prosveščeniya RSFSR. Orekhovo-Zuevskii Pedagogičeskii Institut. Učenyje Zapiski Kafedry Matematiki. (Moscow)
- Orenburg. Gos. Ped. Inst. Učen. Zap.* Orenburgskii Gosudarstvennyi Pedagogičeskii Institut im. V. P. Čkalova. Učenyje Zapiski. (Chelyabinsk)
- Organon.* Organon. Institut d'Histoire de la Science et de la Technique auprès de l'Académie Polonaise des Sciences. (Warsaw)
- Orlov. Gos. Ped. Inst. Učen. Zap.* Orlovskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Orel)
- Osaka J. Math.* Osaka Journal of Mathematics. (Osaka)
- Österreich. Akad. Wiss. Math.-Natur. Kl. S.-B. II.* Österreichische Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. Sitzungsberichte. Abteilung II. Mathematik, Astronomie, Physik, Meteorologie und Technik. (Vienna)
- Otbor i Peredača Informacii.* Otbor i Peredača Informacii. Akademija Nauk Ukrainkoj SSR. (Kiev)
- P.A.* Science Abstracts. Physics Abstracts. (London)
- Pacific J. Math.* Pacific Journal of Mathematics. (Berkeley, Calif.)
- Papers and Proc. Roy. Soc. Tasmania.* Papers and Proceedings of the Royal Society of Tasmania. (Hobart)
- Pattern Recognition.* The Journal of the Pattern Recognition Society. (New York/Oxford)
- Penz. Politehn. Inst. Učen. Zap. Mat. Meh.* Penzenskii Politehnicheskii Institut. Matematika i Mehaniika. Učenyje Zapiski. (Penza)
- Period. Mat.* Periodico di Matematiche. (Bologna)
- Period. Math. Hungar.* Periodica Mathematica Hungarica. Journal of the János Bolyai Mathematical Society. (Budapest)
- Perm. Gos. Ped. Inst. Učen. Zap.* Permskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Perm)
- Perm. Gos. Univ. Učen. Zap.* Permskii Gosudarstvennyi Universitet imeni A. M. Gor'kogo. Učenyje Zapiski. (Perm)
- Perm. Politehn. Inst. Sb. Naučn. Trudov.* Permskii Politehnicheskii Institut. Sbornik Naučnyh Trudov. (Perm)
- Philips Res. Rep.* Philips Research Reports. (Eindhoven)
- Philips Res. Rep. Suppl.* Philips Research Reports. Supplements. (Eindhoven)
- Philos. Math.* Philosophia Mathematica. An International Journal for Philosophy of Modern Mathematics. (Hauppauge, N.Y.)
- Philos. Natur.* Philosophia Naturalis. Archiv für Naturphilosophie und die philosophischen Grenzgebiete der exakten Wissenschaften und Wissenschaftsgeschichte. (Meisenheim-Glan)
- Philos. Sci.* Philosophy of Science. (Baltimore, Md.)
- \*Philos. Studies.* Philosophical Studies. (Dordrecht)
- Philos. Trans. Roy. Soc. London Ser. A.* Philosophical Transactions of the Royal Society of London. Series A. Mathematical and Physical Sciences. (London)
- Phys. Fluids.* The Physics of Fluids. (New York)
- Phys. Lett.* Physics Letters. (Amsterdam)
- Phys. Norveg.* Physica Norvegica. (Oslo)
- Phys. Rev. A.* Physical Review A. General Physics. (New York)
- Phys. Rev. B.* Physical Review B. Solid State. (New York)
- Phys. Rev. C.* Physical Review C. Nuclear Physics. (New York)
- Phys. Rev. D.* Physical Review D. Particles and Fields. (New York)
- Phys. Rev. Lett.* Physical Review Letters. (New York)
- Phys. Scripta.* Physica Scripta. (Stockholm) (Replacement of: *Ark. Fys.*)
- Phys. Status Solidi (A).* Physica Status Solidi (A). Applied Research. (Berlin)



ABBREVIATIONS OF NAMES OF JOURNALS

- Phys. Status Solidi (B).* Physica Status Solidi (B). Basic Research. (Berlin)
- Physica.* Physica. (Amsterdam)
- Physics Abstracts.* Science Abstracts. Physics Abstracts. (London) (Usually abbreviated *PA* in the text of *Math. Reviews*)
- Physis—Riv. Internaz. Storia Sci.* Physis. Rivista Internazionale di Storia della Scienza. (Florence)
- Pi Mu Epsilon J.* Pi Mu Epsilon Journal. (Norman, Okla.)
- Podstawy Sterowania.* Podstawy Sterowania. Polska Akademia Nauk. Centrum Badań Naukowych w Woj. Katowickim. Zakład Systemów Automatyki Kompleksowej. (Gliwice)
- Pokroky Mat. Fyz. Astronom.* Jednota Československých Matematiků a Fyziku. Pokroky Matematiky, Fyziky a Astronomie. (Prague)
- Polska Biblio. Analit. Mech.* Polska Akademia Nauk. Instytut Podstawowych Problemów Techniki. Polska Bibliografia Analityczna. Mechanika. Polish Scientific Abstracts. Mechanics. (Warsaw)
- Portugal. Math.* Portugaliae Mathematica. (Lisbon)
- Portugal. Phys.* Portugaliae Physica. (Lisbon)
- Prace Inst. Automat. PAN.* Instytut Automatyki Polskiej Akademii Nauk. Prace. (Warsaw)
- Prace Inst. Maszyn Przepływowych.* Prace Instytutu Maszyn Przepływowych. Transactions of the Institute of Fluid-Flow Machinery. (Warsaw)
- Prakt. Akad. Athénōn.* Πρακτικὰ τῆς Ἀκαδημίας Ἀθηνῶν. (Athens)
- Praxis Math.* Praxis der Mathematik. (Cologne)
- Približ. Metod. Rešen. Differencial'. Uravnen.* Približennye Metody Rešenija Differencial'nyh Uravnenij. (Kiev)
- Prikl. Mat. i Programirovanie.* Akademija Nauk Moldavskoj SSR. Institut Matematiki s Vyčislitel'nym Centrom. Prikladnaja Matematika i Programirovanie. (Kishinev)
- Prikl. Mat. Meh.* Akademija Nauk SSSR. Otdelenie Tehničeskij Nauk. Institut Mehaniki. Prikladnaja Matematika i Mehanika. (Moscow) (Translated as: *J. Appl. Math. Mech.*)
- Prikladna. Meh.* Akademija Nauk Ukrainskoj SSR. Otdelenie Matematiki, Mehaniki i Kibernetiki. Prikladnaja Mehanika. (Kiev) (Translated as: *Soviet Appl. Mech.*)
- Primenen. Mat. Ekonom.* Leningradskij Ordena Lenina Gosudarstvennyj Universitet imeni A. A. Ždanova. Kafedra i Laboratorija Ekonomiko-Matematičeskij Metodov. Primenenie Matematiki v Ekonomike. (Leningrad)
- Probleme der Kybernetik.* Probleme der Kybernetik. (Berlin) (Translation of *Problemy Kibernet.*)
- Problems of Control and Information Theory/Problemy Upravljenija i Teorii Informacii.* Problems of Control and Information Theory. Problemy Upravljenija i Teorii Informacii. Published jointly by the Academy of Sciences of the USSR and the Hungarian Academy of Sciences. (Budapest)
- Problems of Information Transmission.* Problems of Information Transmission. (New York) (Translation of *Problemy Peredači Informacii*)
- Problemy Kibernet.* Problemy Kibernetiki. (Moscow) (Translated as: *Systems Theory Res.*)
- Problemy Mat. Anal. Slož. Sistem.* Voronežskij Gosudarstvennyj Universitet. Problemy Matematičeskogo Analiza Složnyh Sistem. (Voronezh)
- Problemy Peredači Informacii.* Akademija Nauk SSSR. Institut Problem Peredači Informacii Akademii Nauk SSSR. Problemy Peredači Informacii. (Moscow) (Translated as: *Problems of Information Transmission*)
- Proc. Amer. Math. Soc.* Proceedings of the American Mathematical Society. (Providence, R.I.)
- Proc. Cambridge Philos. Soc.* Proceedings of the Cambridge Philosophical Society. (Cambridge, England)
- Proc. Edinburgh Math. Soc.* Proceedings of the Edinburgh Mathematical Society. (Edinburgh) (Contains *Proc. Edinburgh Math. Soc. Edinburgh Math. Notes*)
- Proc. Edinburgh Math. Soc. Edinburgh Math. Notes.* Proceedings of the Edinburgh Mathematical Society. Edinburgh Mathematical Notes. (Edinburgh) (Included in *Proc. Edinburgh Math. Soc.*)
- Proc. Fac. Engrg. Keio Univ.* Proceedings of the Fujihara Memorial Faculty of Engineering. Keio University. (Tokyo) (Continued as: *Keio Engrg. Rep.*)
- Proc. Fac. Sci. Tokai Univ.* Proceedings of the Faculty of Science of Tokai University. (Tokyo)
- Proc. IEEE.* Proceedings of the IEEE. (New York)
- Proc. Indian Acad. Sci. Sect. A.* Proceedings of the Indian Academy of Sciences. Section A. (Bangalore)
- Proc. Indian Nat. Sci. Acad. Part A.* Proceedings of the Indian National Science Academy. Part A. Physical Sciences. (New Delhi)
- Proc. Inst. Elec. Engrs.* Proceedings of the Institution of Electrical Engineers. Electronics. Power. Control & Science. (London)
- Proc. Inst. Statist. Math.* The Proceedings of the Institute of Statistical Mathematics. (Tokyo)
- Proc. Iowa Acad. Sci.* Proceedings of the Iowa Academy of Science. (Des Moines, Iowa)
- \*Proc. IREE.* Proceedings—The Institution of Radio and Electronics Engineers Australia. (Sydney)
- Proc. Japan Acad.* Proceedings of the Japan Academy. (Tokyo)
- Proc. London Math. Soc.* Proceedings of the London Mathematical Society. (London)
- Proc. Math. Phys. Soc. U.A.R. (Egypt).* Proceedings of the Mathematical and Physical Society of U.A.R. (Egypt). (Cairo)
- Proc. Nat. Acad. Sci. India Sect. A.* Proceedings of the National Academy of Sciences, India. Section—A. (Allahabad)
- Proc. Nat. Acad. Sci. U.S.A.* Proceedings of the National Academy of Sciences of the United States of America. (Washington, D.C.)
- Proc. Pakistan Statist. Assoc.* Proceedings of the Pakistan Statistical Association. (Lahore)
- Proc. Rajasthan Acad. Sci.* The Proceedings of the Rajasthan Academy of Sciences. (Pilani)
- Proc. Roy. Irish Acad. Sect. A.* Proceedings of the Royal Irish Academy. Section A. (Dublin)
- Proc. Roy. Soc. Edinburgh Sect. A.* Proceedings of the Royal Society of Edinburgh. Section A. (Mathematical and Physical Sciences). (Edinburgh)
- Proc. Roy. Soc. London Ser. A.* Proceedings of the Royal Society. London. Series A. Mathematical and Physical Sciences. (London) (May also appear as: *Proc. Roy. Soc. Ser. A*)
- Proc. Roy. Soc. Ser. A.* Proceedings of the Royal Society. Series A. Mathematical and Physical Sciences. (London) (May also appear as: *Proc. Roy. Soc. London Ser. A*)
- Proc. Steklov Inst. Math.* Proceedings of the Steklov Institute of Mathematics. (Providence, R.I.) (Translation of *Trudy Mat. Inst. Steklov.*)
- Proc. (Trudy) P. N. Lebedev Phys. Inst.* Proceedings (Trudy) of the P. N. Lebedev Physics Institute. (New York/London) (Translation of *Trudy Fiz. Inst. Lebedev.*)
- Proc. Vibration Problems.* Polish Academy of Sciences. Institute of Basic Technical Problems. Proceedings of Vibration Problems. (Warsaw)
- Proc. West Virginia Acad. Sci.* West Virginia University Bulletin. West Virginia Academy of Science. Proceedings. (Morgantown, W. Va.)
- Progr. Math.* See *Shuzus Jinzhan.*

ABBREVIATIONS OF NAMES OF JOURNALS

- Progr. Math. (Allahabad).* Academy for Progress of Mathematics of the University of Allahabad. Progress of Mathematics. (Allahabad)
- Progr. Theoret. Phys.* Progress of Theoretical Physics. (Kyoto)
- Przegląd Statyst.* Sekcja Statystyki Polskiego Towarzystwa Ekonomicznego. Przegląd Statystyczny. (Warsaw)
- Pskov. Ped. Inst. Fiz.-Mat. Fak. Učen. Zap.* Ministerstvo Prosveshcheniya RSFSR. Pskovskii Pedagogicheskii Institut. Fiziko-Matematicheskii Fakul'tet. Uchenye Zapiski. (Pskov)
- Psychometrika.* Psychometrika. A Journal Devoted to the Development of Psychology as a Quantitative Rational Science. (Chapel Hill, N.C.)
- Pubbl. IAC.* IAC. Istituto per le Applicazioni del Calcolo del Consiglio Nazionale delle Ricerche. Pubblicazioni. (Rome)
- Publ. Dép. Math. (Lyon).* Publications du Département de Mathématiques. Faculté des Sciences de Lyon. (Lyon)
- Publ. Dept. Math. (Ljubljana).* University of Ljubljana. Institute of Mathematics, Physics and Mechanics. Publications of the Department of Mathematics. (Ljubljana)
- Publ. Inst. Math. (Beograd).* Institut Mathématique. Publications de l'Institut Mathématique. Nouvelle Série. (Belgrade)
- Publ. Inst. Statist. Univ. Paris.* Publications de l'Institut de Statistique de l'Université de Paris. (Paris)
- Publ. Math. Debrecen.* Publicationes Mathematicae. (Debrecen)
- Publ. Ramanujan Inst.* Publications of the Ramanujan Institute. (Madras)
- Publ. Res. Inst. Math. Sci.* Publications of the Research Institute for Mathematical Sciences. (Kyoto)
- Publ. Sém. Géom. Univ. Neuchâtel.* Publications du Séminaire de Géométrie de l'Université de Neuchâtel. (Neuchâtel)
- Punjab Univ. J. Math. (Lahore).* Punjab University Journal of Mathematics. (Lahore)
- Quart. Appl. Math.* Quarterly of Applied Mathematics. (Providence, R.I.)
- Quart. J. Math. Oxford Ser.* The Quarterly Journal of Mathematics, Oxford Second Series. (Oxford)
- Quart. J. Mech. Appl. Math.* The Quarterly Journal of Mechanics and Applied Mathematics. (Oxford)
- RAAG Res. Notes.* RAAG Research Notes. (Tokyo)
- Rad Jugoslav. Akad. Znan. Umjet.* Rad Jugoslavenke Akademije Znanosti i Umjetnosti. (Zagreb)
- Radio Engng. Electron. Phys.* Radio Engineering and Electronic Physics. (Translation of *Radiotekhnika i Elektronika*, a U.S.S.R. Academy of Sciences Publication). (New York) (Translation of *Radiotekhn. i. Elektron.*)
- Radio Sci.* Radio Science. (Washington, D.C.)
- Radiophys. and Quantum Electronics.* Radiophysics and Quantum Electronics. (A translation of the *Izvestiya Vysših Uchebnyh Zavedenii Radiofizika* of the Ministry of Higher Education of the USSR). (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Radiofizika*)
- Radiotekhn. (Har'kov).* Har'kovskii Ordena Trudovogo Krasnogo Znameni Gosudarstvennyi Universitet imeni A. M. Gor'kogo. Radiotekhnika. (Kharkov)
- Radiotekhn. i Elektron.* Akademija Nauk SSSR. Radiotekhnika i Elektronika. (Moscow) (Translated as: *Radio Engng. Electron. Phys.*)
- Rajasthan Univ. Studies Statist.* Rajasthan University Studies in Statistics (Science Series). (Rajasthan)
- Ranchi Univ. Math. J.* Ranchi University Mathematical Journal. (Ranchi)
- Ratio.* Ratio. (Oxford)
- RCA Rev.* RCA Review. (Princeton, N.J.)
- Recherche Aérospat.* La Recherche Aérospatiale. (Châtillon)
- Regelungstech. Prozeß-Datenverarbeit.* Regelungstechnik und Prozeß-Datenverarbeitung. Zeitschrift für Steuern, Regeln und Automatisieren. (Munich)
- Rend. Accad. Sci. Fis. Mat. Napoli.* Società Nazionale di Napoli. Rendiconto dell'Accademia delle Scienze Fisiche e Matematiche. (Naples)
- Rend. Circ. Mat. Palermo.* Rendiconti del Circolo Matematico di Palermo. (Palermo)
- Rend. Ist. Mat. Univ. Trieste.* Rendiconti dell'Istituto di Matematica dell'Università di Trieste. (Trieste)
- Rend. Mat.* Rendiconti di Matematica. Università degli Studi di Roma. Istituto Matematica Guido Castelnuovo. Istituto di Matematica Applicata. Istituto Nazionale di Alta Matematica. (Rome)
- Rend. Sem. Fac. Sci. Univ. Cagliari.* Rendiconti del Seminario della Facoltà di Scienze della Università di Cagliari. (Cagliari)
- Rend. Sem. Mat. Fis. Milano.* Rendiconti del Seminario Matematico e Fisico di Milano. (Milan)
- Rend. Sem. Mat. Messina.* Rendiconti del Seminario Matematico di Messina. (Messina)
- Rend. Sem. Mat. Univ. Padova.* Rendiconti del Seminario Matematico dell'Università di Padova. (Padua)
- Rep. Comput. Centre Univ. Tokyo.* Report of the Computer Centre. University of Tokyo. (Tokyo)
- Rep. Fac. Sci. Kagoshima Univ.* Reports of the Faculty of Science of Kagoshima University. (Kagoshima)
- Rep. Fac. Sci. Shizuoka Univ.* Reports of the Faculty of Science. Shizuoka University. (Shizuoka)
- Rep. Inst. Sci. Tech. Univ. Tokyo.* The Reports of the Institute of Science and Technology, University of Tokyo. (Tokyo)
- Rep. Mathematical Phys.* Reports on Mathematical Physics. (Amsterdam/Warsaw)
- Rep. Statist. Appl. Res. Un. Japan. Sci. Engrs.* Reports of Statistical Application Research, Union of Japanese Scientists and Engineers. (Tokyo)
- Rep. Univ. Electro-Commun.* Reports of the University of Electro-Communications. (Tokyo)
- Repúb. Venezuela Bol. Acad. Ci. Fis. Mat. Natur.* República de Venezuela. Boletín de la Academia de Ciencias Físicas, Matemáticas y Naturales. (Caracas)
- Res. Bull. Fac. Ed. Oita Univ.* The Research Bulletin of the Faculty of Education. Oita University. (Oita)
- Res. Bull. Panjab Univ.* Research Bulletin of the Panjab University. (Chandigarh)
- Res. Rep. Anan Tech. College.* Research Reports of the Anan Technical College. (Anan)
- \*Res. Rep. Kushiro Tech. College.* Research Reports Kushiro Technical College. (Hokkaido)
- Res. Rep. Nagaoka Tech. College.* Research Reports of the Nagaoka Technical College. (Nagaoka)
- Res. Rep. Tokyo Electrical Engng. College.* Research Reports of Tokyo Electrical Engineering College. (Tokyo)
- Rev. Acad. Ci. Madrid.* Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales de Madrid. (Madrid)
- Rev. Acad. Ci. Zaragoza.* Revista de la Academia de Ciencias Exactas, Físico-Químicas y Naturales de Zaragoza. (Zaragoza)
- Rev. Bio-Math.* Revue de Bio-Mathématique. (Antony)
- Rev. CETHEDDEC.* Revue du Centre d'Études Théoriques de la Détection et des Communications. (Paris)
- Rev. Ci. (Lima).* Revista de Ciencias. (Lima)
- Rev. Ci. Mat. Univ. Lourenço Marques Sér. A.* Revista de Ciências Matemáticas. Universidade de Lourenço Marques. Série A. (Lourenço Marques)

ABBREVIATIONS OF NAMES OF JOURNALS

- Rev. Ci. Mat. Univ. Lourenço Marques Sér. B.* Revista de Ciências Matemáticas. Universidade de Lourenço Marques. Série B. (Lourenço Marques)
- Rev. Colombiana Mat.* Revista Colombiana de Matemáticas. (Bogotá)
- \**Rev. Econom. Statist.* The Review of Economics and Statistics. (Cambridge, Mass.)
- Rev. Fac. Ci. Univ. Coimbra.* Revista de Faculdade de Ciências da Universidade de Coimbra. (Coimbra)
- Rev. Française Automat. Informat. Recherche Opérationnelle.* Revue Française d'Automatique, Informatique et Recherche Opérationnelle. (Paris) (Formerly: *Rev. Française Informat. Recherche Opérationnelle*)
- Rev. Française Informat. Recherche Opérationnelle.* Association Française d'Informatique et de Recherche Opérationnelle. Revue Française d'Informatique et de Recherche Opérationnelle. (Paris) (Continued as: *Rev. Française Automat. Informat. Recherche Opérationnelle*)
- Rev. Histoire Sci. Appl.* Revue d'Histoire des Sciences et de leurs Applications. (Paris)
- Rev. Inst. Internat. Statist.* Revue de l'Institut International de Statistique. Review of the International Statistical Institute. (The Hague) (Continued as: *Internat. Statist. Rev.*)
- Rev. Mat. Sociedad Matemática Mexicana.* Revista Matemática. (Mexico City)
- Rev. Mat. Hisp.-Amer.* Revista Matemática Hispano-Americana. (Madrid)
- Rev. Mexicana Fis.* Revista Mexicana de Física. (Mexico City)
- Rev. Modern Phys.* Reviews of Modern Physics. (New York)
- Rev. Roumaine Math. Pures Appl.* Académie de la République Populaire Roumaine. Revue Roumaine de Mathématiques Pures et Appliquées. (Bucharest)
- Rev. Roumaine Phys.* Revue Roumaine de Physique. (Bucharest)
- Rev. Roumaine Sci. Tech. Sér. Électrotech. Énergét.* Revue Roumaine des Sciences Techniques. Série Électrotechnique et Énergétique. (Bucharest)
- Rev. Roumaine Sci. Tech. Sér. Méc. Appl.* Revue Roumaine des Sciences Techniques. Série de Mécanique Appliquée. (Bucharest)
- \**Rev. Statist. Appl.* Revue de Statistique Appliquée. Centre d'Enseignement et de Recherche de Statistique Appliquée. (Paris)
- Rev. Tech. Thomson-CSF.* Revue Technique Thomson-CSF. (Paris)
- Rev. Un. Mat. Argentina.* Revista de la Unión Matemática Argentina. (Buenos Aires)
- Rice Univ. Studies.* Rice University Studies. (Houston, Tex.)
- Ricerca (Napoli).* La Ricerca. Rivista di Matematiche Pure ed Applicate. (Naples)
- Ricerca Mat.* Ricerca di Matematica. (Naples)
- Rīgas Politehn. Inst. Zinātn. Rakst.* Rīgas Politehniskais Institūts. Rīgas Politehniskais Institūts Zinātniskie Raksti. (Riga)
- Riv. Mat. Univ. Parma.* Rivista di Matematica della Università di Parma. (Parma)
- Riv. Nuovo Cimento.* Rivista del Nuovo Cimento. (Bologna)
- Rišk. Inst. Inž. Grahdan. Aviacii.* Riškii Institut Inženerov Grahdanokoi Aviacii imeni Leninskogo Komsomola. (Riga)
- Rjazansk. Gos. Ped. Inst. Učen. Zap.* Rjazanskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Ryzan)
- Rocky Mountain J. Math.* The Rocky Mountain Journal of Mathematics. (Missoula, Mont.)
- Rostov-na-Donu Gos. Ped. Inst. Fiz.-Mat. Fak. Učen. Zap.* Rostovskii-na-Donu Gosudarstvennyi Pedagogičeskii Institut. Fiziko-Matematičeskii Fakul'tet. Učenyje Zapiski. (Rostov-on-Don)
- Rostov-na-Donu Gos. Univ. Učen. Zap.* Rostovskii-na-Donu Gosudarstvennyi Universitet. Učenyje Zapiski. (Ordzhonikidze)
- Rozprawy Československé Akad. Věd. Řada Mat. Přírod. Věd.* Rozprawy Československé Akademie Věd. Řada Matematických a Přírodních Věd. (Prague)
- Rozprawy Elektrotech.* Polska Akademia Nauk. Instytut Technologii Elektronowej. Rozprawy Elektrotechniczne. (Warsaw)
- Rozprawy Inż.* Polska Akademia Nauk. Instytut Podstawowych Problemów Techniki. Rozprawy Inżynierskie. (Warsaw)
- Rozprawy Politech. Poznań.* Politechnika Poznańska. Rozprawy. (Poznań)
- RSb Ékonom. Promyšl. D.* Akademiya Nauk SSSR. Vsesojuznyi Institut Naučnoi i Tehničeskoj Informacii. Referativnyi Sbornik. Ékonomika Promyšlennosti. D. Primenenie Matematičeskikh Metodov v Ékonomičeskikh Issledovanijah i Planirovanii. (Moscow)
- Russian Math. Surveys.* Russian Mathematical Surveys. (A translation of the survey articles and of selected biographical articles in *Uspehi Matematičeskikh Nauk*). (London) (Translation of *Uspehi Mat. Nauk*)
- RZAutomat. Telemek. i Vyčisl. Tehn.* Akademiya Nauk SSSR. Institut Naučnoi Informacii. Referativnyi Žurnal. Avtomatika, Telemekhanika i Vyčislitel'naja Tehnika. (Moscow)
- RZFiz.* Akademiya Nauk SSSR. Institut Naučnoi Informacii. Referativnyi Žurnal. Fizika. (Moscow)
- RZKibernet.* Akademiya Nauk SSSR. Institut Naučnoi Informacii. Referativnyi Žurnal. Kibernetika. (Moscow)
- RZMat.* Akademiya Nauk SSSR. Institut Naučnoi Informacii. Referativnyi Žurnal. Matematika. (Moscow)
- RZMeh.* Akademiya Nauk SSSR. Institut Naučnoi Informacii. Referativnyi Žurnal. Mehanika. (Moscow)
- Sakharth. SSR Mecn. Akad. Gamotvli. Centr. Šrom.* Sakharthvelos SSR Mecnierebatha Akademia Gamotvlihi Centris Šromebi. (Tbilisi) (Formerly listed as: *Trudy Vyčisl. Centra Akad. Nauk Gruzii. SSR*)
- Sakharth. SSR Mecn. Akad. Math. Inst. Šrom.* Sakharthvelos SSR Mecnierebatha Akademia A. Razmadzis Sahelobis Tbilisis Matematikis Institutis. Šromebi. (Tbilisi) (Formerly listed as: *Akad. Nauk Gruzii. SSR. Trudy Tbilis. Mat. Inst. Razmadze*)
- Sakharth. SSR Mecn. Akad. Moambe.* Sakharthvelos SSR Mecnierebatha Akademia Moambe. (Tbilisi) (Formerly listed as: *Soobšč. Akad. Nauk Gruzii. SSR*)
- Sankhyā Ser. A.* Sankhyā (Statistics). The Indian Journal of Statistics. Series A. (Calcutta)
- Sankhyā Ser. B.* Sankhyā (Statistics). The Indian Journal of Statistics. Series B. (Calcutta)
- Saratov. Gos. Ped. Inst. Učen. Zap.* Saratovskii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Saratov)
- S.-B. Berlin. Math. Gesellsch.* Sitzungsberichte der Berliner Mathematischen Gesellschaft. (Berlin)
- S.-B. Heidelberger Akad. Wiss. Math.-Natur. Kl.* Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse. (Heidelberg)
- S.-B. Sächs. Akad. Wiss. Leipzig Math.-Natur. Kl.* Sitzungsberichte der Sächsischen Akademie der Wissenschaften zu Leipzig. Mathematisch-naturwissenschaftliche Klasse. (Berlin)
- Sb. Prací Ped. Fak. v Ostravě Ser. A.* Sborník Prací Pedagogické Fakulty v Ostravě. Série A. (Ostrava)
- Sb. Prací Přírodověd. Fak. Univ. Palackého v Olomouci.* Sborník Prací Přírodovědecké Fakulty University Palackého v Olomouci. (Prague)
- Sb. Prací Vys. Školy Doprav. v Žilíně a Výzkum. Ústav. Doprav. v Praze.* Sborník Prací Vysoké Školy Dopravní v Žilíně a Výzkumného Ústavu Dopravního v Praze. (Prague)
- Sb. Voj. Akad. (Brno).* Sborník Vojenské Akademie Antonína Zápotockého. (Brno)
- Sb. Vysoké. Učení Tech. Brno.* Sborník Vysokého Učení Technického v Brně. (Brno)



ABBREVIATIONS OF NAMES OF JOURNALS

- Schr. Math. Inst. Univ. Münster.* Schriftenreihe des Mathematischen Instituts der Universität Münster. (Münster)
- Sci. Abstracts China Sect. Math. Phys. Sci.* Institute of Scientific and Technical Information of China. Science Abstracts of China. Mathematical and Physical Sciences. (Peking)
- Sci. Amer.* Scientific American. (New York)
- Sci. Hist.* Scientiarum Historia. Driemaandelijks Tijdschrift voor de Geschiedenis van de Geneeskunde, Wetkunde en Natuurwetenschappen. (Antwerp)
- Sci. Papers College Gen. Ed. Univ. Tokyo.* Scientific Papers of the College of General Education. University of Tokyo. (Tokyo)
- Sci. Rep. College Gen. Ed. Osaka Univ.* Science Reports. College of General Education. Osaka University. (Osaka)
- Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* Science Reports of the Faculty of Education. Gifu University. (Natural Science). (Gifu)
- Sci. Rep. Hirosaki Univ.* Science Reports of the Hirosaki University. (Hirosaki)
- Sci. Rep. Kanazawa Univ.* The Science Reports of the Kanazawa University. (Kanazawa)
- Sci. Rep. Niigata Univ. Ser. A.* Science Reports of Niigata University. Series A (Mathematics). (Niigata)
- Sci. Rep. Res. Inst. Theoret. Phys. Hiroshima Univ.* Scientific Reports of the Research Institute for Theoretical Physics, Hiroshima University. (Hiroshima)
- Sci. Rep. Saitama Univ. Ser. A.* The Science Reports of the Saitama University. Series A. Mathematics, Physics and Chemistry. (Urawa)
- Sci. Rep. Tokyo Kyoiku Daigaku Sect. A.* Science Reports of the Tokyo Kyoiku Daigaku (Tokyo University of Education). Section A. (Tokyo)
- Sci. Rep. Yokohama Nat. Univ. Sect. I.* Science Reports of the Yokohama National University. Section I. Mathematics, Physics. (Yokohama)
- \**Sci. Rev.* Scientia Revuo. (Belgrade)
- Sci. Sinica.* Scientia Sinica. (Peking)
- Scientia (Valparaiso).* Universidad Técnica Federico Santa María. Scientia. (Valparaiso)
- \**Scripta Fac. Sci. Natur. UJEP Brunensis—Math.* Scripta Facultatis Scientiarum Naturalium Universitatis J. E. Purkyně Brunensis—Mathematica. (Brno) (Formerly: *Spisy Přírod. Fak. Univ. Brno*)
- \**Scripta Fac. Sci. Natur. UJEP Brunensis—Phys.* Scripta Facultatis Scientiarum Naturalium Universitatis J. E. Purkyně Brunensis—Physica. (Brno) (Formerly: *Spisy Přírod. Fak. Univ. Brno*)
- Scripta Math.* Scripta Mathematica. A Quarterly Journal Devoted to the Philosophy, History, and Expository Treatment of Mathematics. (New York)
- Sem. Inst. Prikl. Mat. Annotac. Doklady.* (Tbilisi) See *Gamqeneb. Math. Inst. Sem. Mojsen. Anotacie.*
- Sem. Math. V. A. Steklov Math. Inst. Leningrad.* Seminars in Mathematics V. A. Steklov Mathematical Institute Leningrad. (New York) (Translation of *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)*)
- Semigroup Forum.* Semigroup Forum. (New York)
- Shengxue Xuebao.* See *Acta Acust. Sinica.*
- Shuxue Jinzhan.* Chinese Mathematical Society. Academia Sinica. Shuxue Jinzhan (Progress in Mathematics). (Peking)
- SIAM J. Appl. Math.* SIAM Journal on Applied Mathematics. (Philadelphia, Pa.)
- SIAM J. Comput.* SIAM Journal on Computing. (Philadelphia, Pa.)
- SIAM J. Control.* SIAM Journal on Control. (Philadelphia, Pa.)
- SIAM J. Math. Anal.* SIAM Journal on Mathematical Analysis. (Philadelphia, Pa.)
- SIAM J. Numer. Anal.* SIAM Journal on Numerical Analysis. (Philadelphia, Pa.)
- SIAM Rev.* SIAM Review. A Publication of the Society for Industrial and Applied Mathematics. (Philadelphia, Pa.)
- Siberian Math. J.* Siberian Mathematical Journal. (New York) (Translation of *Sibirsk. Mat. Ž.*)
- Sibirsk. Mat. Ž.* Akademija Nauk SSSR. Sibirskoe Otdelenie. Sibirskii Matematicheskii Zhurnal. (Moscow) (Translated as: *Siberian Math. J.*)
- Siemens Forsch.- und Entwicklungsber.* Siemens Forschungs- und Entwicklungsberichte. Research and Development Reports. (Berlin)
- Simon Stevin.* Simon Stevin. Wis- en Natuurkundig Tijdschrift. (Groningen-Djakarta)
- Skand. Aktuariatidskr.* Skandinavisk Aktuariatidskrift. (Uppsala)
- Skr. Norske Vid.-Akad. Oslo I.* Skrifter Utgitt av det Norske Videnskaps-Akademi i Oslo. I. Mat.-Naturv. Klasse. (Oslo)
- Smolensk. Gos. Ped. Inst. Učen. Zap.* Smolenskii Gosudarstvennyi Pedagogicheskii Institut. Uchenye Zapiski. Smolenskii Matematicheskii Sbornik. (Smolensk)
- Smolensk. Mat. Sb.* See *Smolensk. Gos. Ped. Inst. Učen. Zap.*
- Soc. Actuar. Trans.* Society of Actuaries. Transactions. (Chicago, Ill.)
- Soc. Sci. Fenn. Comment. Phys.-Math.* Societas Scientiarum Fennica. Commentationes Physico-Mathematicae. (Helsinki)
- \**Software—Practice and Experience.* Software—Practice and Experience. (London)
- Soobšč. Akad. Nauk Gruz. SSR.* Soobščeniia Akademii Nauk Gruzinskoi SSR. (Tbilisi) See *Sakharth. SSR Mecn. Akad. Moambe.*
- Soobšč. Vyčisl. Mat. Akademija Nauk SSSR.* Vyčislitel'nyi Centr. Soobščeniia po Vyčislitel'noi Matematike. (Moscow)
- South African Statist. J.* South African Statistical Journal. (Cape Town)
- Soviet Aeronaut.* Soviet Aeronautics. (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Aviacion. Tehn.*)
- Soviet Appl. Mech.* Soviet Applied Mechanics. (New York) (Translation of *Prikladna. Meh.*)
- Soviet Astronom. AJ.* Soviet Astronomy. AJ. (A translation of *Astronomičeskii Zhurnal*, the astronomical journal of the Academy of Sciences of the USSR). (New York) (Translation of *Astronom. Ž.*)
- Soviet Automat. Control.* Soviet Automatic Control. (New York) (Translation of *Avtomatika*)
- Soviet J. Nuclear Phys.* American Institute of Physics. Soviet Journal of Nuclear Physics. (New York) (Translation of *Jadernaja Fiz.*)
- \**Soviet J. Particles and Nuclei.* Soviet Journal of Particles and Nuclei. (New York) (Translation of *Fiz. Elementar. Častic. i Atom. Jadra*)
- Soviet Math. Dokl.* Soviet Mathematics. Doklady. (A translation of the mathematics section of *Doklady Akademii Nauk SSSR*). (Providence, R.I.) (Translation of mathematics section of *Dokl. Akad. Nauk SSSR*)
- Soviet Physics Acoust.* Soviet Physics. Acoustics. (A translation of *Akustičeskii Zhurnal* of the Academy of Sciences of the USSR). (New York) (Translation of *Akust. Ž.*)
- Soviet Physics Dokl.* Soviet Physics. Doklady. (A translation of the physics sections of *Doklady Akademii Nauk SSSR*). (New York) (Translation of physics sections of *Dokl. Akad. Nauk SSSR*)
- Soviet Physics J.* Soviet Physics Journal. (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Fizika*)
- Soviet Physics JETP.* Soviet Physics. JETP. (A translation of *Ž. Eksperimental'noi i Teoreticheskoi Fiziki* of the USSR). (New York) (Translation of *Ž. Eksper. Teoret. Fiz.*)
- Spisy Ped. Fak. v Ostravě.* Spisy Pedagogické Fakulty v Ostravě. (Ostrava)

# ABBREVIATIONS OF NAMES OF JOURNALS

*Spisy Přírod. Fak. Univ. Brno.* Spisy Přírodovědecké Fakulty University v Brně. Trudy Estestvenno-Istoričeskogo Fakul'teta Universiteta v g. Brno. Publications of la Faculté des Sciences de l'Université à Brno. (Brno) (Continued as: *Scripta Fac. Sci. Natur. UJEP Brunensis*)

*Statist. Izv. NRB'Igarija.* D'ržavno Upravljenje za Informacija pri Ministarskija S'vet. Statistički Izvestija. (Sofia)

*Statist. Theory Method Abstracts.* Statistical Theory and Method Abstracts. (London) (Usually abbreviated as *STMA* in the text of *Math. Reviews*)

*Statistica (Bologna).* Statistica. (Bologna)

*Statistica Neerlandica.* Statistica Neerlandica. Orgaan van de Vereniging voor Statistiek. (The Hague)

*Statistika (Sofia).* D'ržavno Upravljenje za Informacija pri Ministarskija S'vet. (Sofia)

*STMA.* Statistical Theory and Method Abstracts. (London)

*Stroje na Zpracování Informací.* Československá Akademie Věd. Výzkumný Ústav Matematických Strojů. Research Institute of Mathematical Machines. Issledovatel'skij Institut Matematičeskijh Mašin. Stroje na Zpracování Informací. (Prague)

*Stud. Cerc. Econom.* Studii și Cercetări Economice. (Bucharest)

*Stud. Cerc. Fiz.* Studii și Cercetări de Fizică. (Bucharest)

*Stud. Cerc. Mat.* Studii și Cercetări Matematice. (Bucharest)

*Stud. Cerc. Mec. Apl.* Studii și Cercetări de Mecanică Aplicată. (Bucharest)

*Studia Automat.* Studia z Automatyki. Poznańskie Towarzystwo Przyjaciół Nauk. Wydział Nauk Technicznych. Prace Komisji Automatyki. (Poznań)

*Studia Leibnitiana.* Studia Leibnitiana. Vierteljahrsschrift für Philosophie und Geschichte der Wissenschaften. (Wiesbaden)

*Studia Logica.* Polska Akademia Nauk. Komitet Filozoficzny. Studia Logica. (Warsaw)

*Studia Math.* Polska Akademia Nauk. Studia Mathematica. (Warsaw)

*Studia Sci. Math. Hungar.* Consilium Instituti Mathematici Academiae Scientiarum Hungaricae. Studia Scientiarum Mathematicarum Hungarica. (Budapest)

*Studia Univ. Babeş-Bolyai Ser. Math.-Mech.* Studia Universitatis Babeş-Bolyai. Series Mathematica-Mechanica. (Cluj)

*Studia Univ. Babeş-Bolyai Ser. Phys.* Studia Universitatis Babeş-Bolyai. Series Physica. (Cluj)

*Studies in Appl. Math.* Studies in Applied Mathematics. (Cambridge, Mass.)

*Sudhoff's Arch.* Sudhoff's Archiv für Geschichte der Medizin und der Naturwissenschaften. (Wiesbaden)

*Sûgaku.* Mathematical Society of Japan. Sûgaku (Mathematics). (Tokyo)

*Sûgakushi Kenkyû.* History of Mathematics Society of Japan. Sûgakushi Kenkyû (Journal of History of Mathematics of Japan). (Tokyo)

*Su-hak kwa Mul-li.* Academy of Science of the People's Democratic Republic of Korea. Research Center for Physics and Mathematics. Su-hak kwa Mul-li (Mathematics and Physics). (Pyongyang)

*Sverdlovsk. Gos. Ped. Inst. Učen. Zap.* Sverdlovskij Gosudarstvennyj Pedagogičeskij Institut. Učenyje Zapiski. (Sverdlovsk)

*Synthese.* Synthese. An International Journal for Epistemology, Methodology and Philosophy of Science. (Dordrecht)

*Systems and Control.* Systems and Control (Shisutemu to Seigyo). (Kyoto)

*\*Systems-Computers-Controls.* Systems-Computers-Controls. The Transactions of the Institute of Electronics and Communication Engineers of Japan. (Washington, D.C.) (A partial translation of *Denshi Tsushin Gakkai Ronbunshi*. See also: *Elektron. Commun. Japan*)

*Systems Theory Res.* Systems Theory Research. (New York) (Translation of *Problemy Kibernet.*)

*Sigma—Mat.-Közgazdasági Folyóirat.* Sigma. Matematikai-Közgazdasági Folyóirat. (Budapest)

*Tadžik. Gos. Univ. Učen. Zap.* Tadžikskij Gosudarstvennyj Universitet im. V. I. Lenina. Učenyje Zapiski. Trudy Fiziko-Matematičeskogo Fakul'teta. Serija Matematičeskaja. (Dushanbe)

*Tadžik. S.-h. Inst. Trudy.* Tadžikskij Sel'skhozjaistvennyj Institut i Tadžikskij Gosudarstvennyj Universitet. Trudy. (Dushanbe)

*Taita J. Math.* Taita Journal of Mathematics. (Taipei)

*Tallin. Polütehnik. Inst. Toimetised Seer. A.* Tallinna Polütehnilise Instituudi Toimetised Seeria A. (Tallin)

*Tamkang J. Math.* Tamkang Journal. (Taipei)

*Tamkang J. Math.* Tamkang Journal of Mathematics. (Taipei)

*Táp San Toán-lý.* Ban Toán-lý. Ủy Ban Khoa Học Và Kỹ Thuật Nhà Nước. (Hanoi)

*Tartu Riikl. Ül. Toimetised.* Tartu Riikliku Ülikooli Toimetised. Učenyje Zapiski Tartuskogo Gosudarstvennogo Universiteta. Acta et Commentationes Universitatis Tartuens. Matematika—ja mehhaanikaalaseid töid. Trudy po matematike i mehanike. (Tartu)

*Taşkent. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosvetšeniya Uzbekskoi SSR. Taškentskij Gosudarstvennyj Pedagogičeskij Institut im. Nizami. Učenyje Zapiski. (Tashkent)

*Taşkent. Gos. Univ. Naučn. Trudy.* Taškentskij Gosudarstvennyj Universitet. Naučnye Trudy. (Tashkent)

*Taşkent. Politehn. Inst. Naučn. Trudy.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya. Taškentskij Politehničeskij Institut. Naučnye Trudy. Novaja Serija. (Tashkent)

*Taşkent. Tekstil. Inst. Kaf. Vyš. Mat. Sb. Naučn.-Issled. Rabot Ser. Mat.* Taškentskij Tekstil'nyj Institut. Kafedra Vysshej Matematiki. Sbornik Naučno-Issledovatel'skijh Rabot. Serija Matematiki. (Tashkent)

*Tbilis. Gos. Univ. Inst. Prikl. Mat. Trudy.* (Tbilisi) See *Tbilis. Sağelmç. Univ. Gamogeneb. Math. Inst. Šrom.*

*Tbilis. Gos. Univ. Trudy Ser. Fiz. Nauk.* Tbiliskij Gosudarstvennyj Universitet. Trudy. Serija Fizičeskijh Nauk. (Tbilisi) See *Tbilis. Sağelmç. Univ. Šrom. Fiz. Mecn. Ser.*

*Tbilis. Gos. Univ. Trudy Ser. Meh.-Mat. Nauk.* Tbiliskij Gosudarstvennyj Universitet. Trudy. Serija Mehaniko-Matematičeskijh Nauk. (Tbilisi) See *Tbilis. Sağelmç. Univ. Šrom. Mekh.-Math. Mecn. Ser.*

*Tech. Rep. Engrg. Res. Inst. Kyoto Univ.* Technical Reports of the Engineering Research Institute. Kyoto University. (Kyoto) (Continued as: *Tech. Rep. Inst. Atom. Energy Kyoto Univ.*)

*\*Tech. Rep. Inst. Atom. Energy Kyoto Univ.* Technical Reports of the Institute of Atomic Energy. Kyoto University. (Kyoto) (Formerly: *Tech. Rep. Engrg. Res. Inst. Kyoto Univ.*)

*Tech. Rep. Osaka Univ.* Technology Reports of the Osaka University. (Osaka)

*Technikgeschichte.* Technikgeschichte. Verein Deutscher Ingenieure. (Düsseldorf)

*Technometrics.* Technometrics. A Journal of Statistics for the Physical, Chemical and Engineering Sciences. (Princeton, N.J.)

*Tellus.* Svenska Geofysiska Föreningen. Tellus. A Quarterly Journal of Geophysics. (Uppsala)

*Tensor.* Tensor. New Series. The Tensor Society. (Tokyo)

*Teor. Funkcij Funkcional. Anal. i Priložen.* Har'kovskij Ordona Trudovogo Kraanogo Znamenij Gosudarstvennyj Universitet imeni A. M. Gor'kogo. Teorija Funkcij, Funkcional'nyj Analiz i ih Priloženija. (Kharkov)

*Teor. Verojatnost. i Mat. Statist.* Teorija Verojatnostej i Matematičeskaja Statistika. (Kiev)

*Teor. Verojatnost. i Primenenij.* Akademija Nauk SSSR. Teorija Verojatnostej i ee Primenenija. (Moscow) (Translated as: *Theor. Probability Appl.*)

ABBREVIATIONS OF NAMES OF JOURNALS

- Teoret. Elektrotehn.* L'vovskii Gosudarstvennyi Universitet. Teoretičeskaja Elektrotehnika. (Lvov)
- Teoret. i Prikl. Meh. (Sofia).* B'lgarska Akademiya na Naukite. Teoretična i Priložna Mehanika. (Sofia)
- Teoret. Mat. Fiz.* Akademija Nauk SSSR. Teoretičeskaja i Matematičeskaja Fizika. (Moscow) (Translated as: *Theoret. and Math. Phys.*)
- Teoret. Prikl. Mat.* MVSSO URSR L'vovskii Ordena Lenina Deržavnii Universitet imeni Iv. Franka. Teoretična i Prikladna Matematika. (Lvov)
- TESLA Electronics.* TESLA Electronics. Quarterly Review of Czechoslovak Electronics and Telecommunications. (Prague)
- Thalès.* Thalès. Recueil Annuel des Travaux de l'Institut d'Histoire des Sciences et des Techniques de l'Université de Paris. (Paris)
- Tbilis. Sahelmc. Univ. Gamogeneb. Math. Inst. Šrom.* Tbilisis Sahelmcipho Universiteti Gamogenebithi Matematikis Institutu Šromebi. (Tbilisi) (Also listed as: *Tbilis. Gos. Univ. Inst. Prikl. Mat. Trudy*)
- Tbilis. Sahelmc. Univ. Šrom. Mekh.-Math. Mecn. Ser.* Tbilisis Sahelmcipho Universiteti. Šromebi. Mekhanika-Matematikis Mecnierebatha Seria. (Tbilisi) (Continued as: *Tbilis. Univ. Šrom. A*)
- Tbilis. Sahelmc. Univ. Šrom. Fiz. Mecn. Ser.* Tbilisis Sahelmcipho Universiteti. Šromebi. Fizikis Mecnierebatha Seria. (Tbilisi) (Continued as: *Tbilis. Univ. Šrom. A*)
- \**Tbilis. Univ. Šrom. A.* Tbilisis Universitetis. Šromebi. A. Fizika-Matematikisa da Sabunebismetqvelo Mecnierebani. (Tbilisi) (Formerly listed as: *Tbilis. Sahelmc. Univ. Šrom. Fiz. Mecn. Ser.* and *Tbilis. Sahelmc. Univ. Šrom. Mekh.-Math. Mecn. Ser.*)
- Theor. Probability Appl.* Theory of Probability and its Applications. (An English translation of the Soviet journal *Teorija Verojatnostei i ee Primenenija*). (Philadelphia, Pa.) (Translation of *Teor. Verojatnost. i Primenen.*)
- \**Theoret. and Math. Phys.* Theoretical and Mathematical Physics. (New York) (Translation of *Teoret. Mat. Fiz.*)
- Theoret. Population Biology.* Theoretical Population Biology. (New York)
- Theoria.* Theoria. A Swedish Journal of Philosophy. (Lund)
- Theory and Decision.* Theory and Decision. An International Journal for Philosophy and Methodology of the Social Sciences. (Dordrecht)
- Tiraspol. Gos. Ped. Inst. Učen. Zap.* Tiraspol'skii Gosudarstvennyi Pedagogičeskii Institut im. T. G. Ševčenko. Učenyje Zapiski. (Kishinev)
- Tjumen. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosveščeniya RSFSR. Tjumen'skii Gosudarstvennyi Pedagogičeskii Institut. Učenyje Zapiski. (Tyumen)
- Tôhoku Math. J.* The Tôhoku Mathematical Journal. (Sendai)
- Tomsk. Gos. Univ. Učen. Zap.* Tomskii Gosudarstvennyi Universitet im. V. V. Kuibyševa. Učenyje Zapiski. (Tomsk)
- Topology.* Topology. An International Journal of Mathematics. (Oxford)
- Trabajos Estadist.* Trabajos de Estadística. (Madrid)
- Trans. Amer. Math. Soc.* Transactions of the American Mathematical Society. (Providence, R.I.)
- Trans. ASME Ser. E. J. Appl. Mech.* Transactions of the ASME. Series E. Journal of Applied Mechanics. (New York)
- Trans. ASME Ser. G. J. Dynamic Systems, Measurement and Control.* Transactions of the ASME. Series G. Journal of Dynamic Systems, Measurement and Control. (New York)
- Trans. Moscow Math. Soc.* Transactions of the Moscow Mathematical Society. (Providence, R.I.) (Translation of *Trudy Moskov. Mat. Obšč.*)
- Trans. New York Acad. Sci.* Transactions of the New York Academy of Sciences. (New York)
- Trans. Roy. Soc. Canada.* Transactions of the Royal Society of Canada. Chemical, Mathematical and Physical Sciences. (Ottawa)
- Trans. Roy. Soc. South Africa.* Transactions of the Royal Society of South Africa. (Cape Town)
- Transportation Sci.* Operations Research Society of America. Transportation Science Section. Transportation Science. (Baltimore, Md.)
- TRU Math.* TRU Mathematics. (Tokyo)
- Trudy Akad. Nauk Litov. SSR Ser. B.* Lietuvos TSR Mokslų Akademijos. Darbai. Serija B. Akademii Nauk Litovskoi SSR. Trudy. Serija B. (Vilnius)
- Trudy Doneck. Politehn. Inst.* Trudy Doneckogo Politehničeskogo Instituta. (Doneck)
- Trudy Fiz. Inst. Lebedev.* Akademija Nauk SSSR. Trudy Fizičeskogo Instituta imeni P. N. Lebedeva. (Moscow) (Translated as: *Proc. (Trudy) P. N. Lebedev Phys. Inst.*)
- Trudy Frunze. Politehn. Inst.* Ministerstvo Narodnogo Obrazovaniya Kirgizskoi SSR. Frunzenskii Politehničeskii Institut. Trudy Frunzenskogo Politehničeskogo Instituta. (Frunze)
- Trudy Geometr. Sem.* Akademija Nauk SSSR. Institut Naučnoi Informacii. VINITI. Trudy Geometričeskogo Seminara. (Moscow)
- Trudy Inst. Istor. Estestvoznani. Tehn.* Akademija Nauk SSSR. Trudy Instituta Istorii Estestvoznaniya i Tehniki. (Moscow)
- Trudy Inst. Teoret. Astronom.* Akademija Nauk SSSR. Trudy Instituta Teoretičeskoi Astronomii. (Moscow)
- Trudy Irkutsk. Gos. Univ.* Trudy Irkutskogo Gosudarstvennogo Universiteta. (Irkutsk)
- \**Trudy Kaliningrad. Gos. Univ. Differencial'naja Geometr. Mnogoobraz. Figur.* Trudy Kaliningradskogo Gosudarstvennogo Universiteta. Differencial'naja Geometrija Mnogoobrazii Figur. (Kaliningrad)
- Trudy Kazan. Aviacion. Inst.* Trudy Kazanskogo Aviacionnogo Instituta. Matematika i Mehanika. (Kazan)
- Trudy Kazan. S.-h. Inst.* Trudy Kazanskogo Sel'skhozjaistvennogo Instituta. (Kazan)
- Trudy Mat. Inst. Steklov.* Akademija Nauk Sojuza Sovetskikh Socialističeskikh Respublik. Trudy Matematičeskogo Instituta im. V. A. Steklova. (Moscow-Leningrad) (Translated as: *Proc. Steklov Inst. Math.*)
- Trudy Moskov. Mat. Obšč.* Trudy Moskovskogo Matematičeskogo Obščestva. (Moscow) (Translated as: *Trans. Moscow Math. Soc.*)
- Trudy Moskov. Orden. Lenin. Energet. Inst.* Ministerstvo Vyšego i Srednego Special'nogo Obrazovaniya RSFSR. Trudy Moskovskogo Ordena Lenina Energetičeskogo Instituta. (Moscow)
- Trudy Naučn. Ob'ed. Prepodav. Fiz.-Mat. Fak. Ped. Inst. Dal'n. Vostok.* Ministerstvo Prosveščeniya RSFSR. Khabarovskii Gosudarstvennyi Pedagogičeskii Institut. Trudy Naučnogo Ob'edineniya Prepodavatelei Fiziko-matematičeskikh Fakul'tetov Pedagogičeskikh Institutov Dal'nego Vostoka. (Khabarovsk)
- Trudy Prževal'sk. Gos. Ped. Inst.* Ministerstvo Narodnogo Obrazovaniya Kirgizskoi SSR. Trudy Prževal'skogo Gosudarstvennogo Pedagogičeskogo Instituta. (Prževal'sk)
- Trudy Samarkand. Gos. Univ.* Ministerstvo Vyšego i Srednego Special'nogo Obrazovaniya UzSSR. Trudy Samarkandskogo Gosudarstvennogo Universiteta im. A. Navoi. (Samarkand)
- Trudy Saratov. Inst. Meh. S.-h.* Trudy Saratovskogo Instituta Mehanizacii Sel'skogo Hozjaistva. (Saratov)
- Trudy Sem. Kraev. Zadačam.* Trudy Seminara po Kraevym Zadačam. (Kazan')
- Trudy Sem. Mat. Fiz. Nelinein. Koleban.* Akademija Nauk Ukrain-skoi SSR. Institut Matematiki. Trudy Seminara po Matematičeskoi Fizike i Nelineinym Kolebanijam. (Kiev)
- Trudy Sem. Teor. Differencial. Uravnenii s Otklon. Argumentom Univ. Družby Narodov Patria Lumumby.* Trudy Seminara po Teorii Differencial'nyh Uravnenii s Otklonjajuščimja Argumentom. Universitet Družby Narodov imeni Patria Lumumby. (Moscow)



# ABBREVIATIONS OF NAMES OF JOURNALS

- Trudy Sem. Vektor. Tensor. Anal.* Trudy Seminara po Vektornomu i Tenzornomu Analizu s ih Priloženijami k Geometrii, Mehaniki i Fizike. (Moscow)
- Trudy Sibirsk. Fiz.-Tehn. Inst.* Trudy Sibirskogo Fiziko-Tehničeskogo Instituta imeni Akademika V. D. Kuznečova. (Tomsk)
- Trudy Tashkent. Gos. Univ.* Trudy Tashkentakogo Gosudarstvennogo Universiteta im. V. I. Lenina. Matematika. (Tashkent) See *Tashkent. Gos. Univ. Naučn. Trudy.*
- Trudy Tomsk. Gos. Univ.* Trudy Tomskogo Gosudarstvennogo Universiteta im. V. V. Kuibyševa. (Tomsk)
- Trudy Univ. Družby Narod.* Trudy Universiteta Družby Narodov imeni Patrisa Lumumby. (Moscow)
- Trudy Vsesojuz. Zaočn. Energet. Inst.* Trudy Vsesojuznogo Zaočnogo Energetičeskogo Instituta. (Moscow)
- Trudy Vyčisl. Centra Akad. Nauk Armjan. SSR i Erevan. Gos. Univ. Mat. Voprosy Kibernet. i Vyčisl. Tehn.* Trudy Vyčislitel'nogo Centra Akademii Nauk Armjanskoi SSR i Erevanskogo Gosudarstvennogo Universiteta. Matematičeskie Voprosy Kibernetiki i Vyčislitel'noi Techniki. (Erevan)
- Trudy Vyčisl. Centra Akad. Nauk Gruzin. SSR. Akademija Nauk Gruzinskoi SSR. Trudy Vyčislitel'nogo Centra.* (Tbilisi) See *Sakharth. SSR Mecn. Akad. Gamotkvi. Centr. Šrom.*
- Trudy Vyčisl. Centra Tartu. Gos. Univ.* Trudy Vyčislitel'nogo Centra. Tartuskii Gosudarstvennyi Universitet. (Tartu)
- Tul. Gos. Ped. Inst. Učen. Zap. Mat. Kaf.* Tul'skii Gosudarstvennyi Pedagogičeskii Institut im L. N. Tolstogo. Učenyje Zapiski Matematičeskikh Kafedr. (Tula)
- Turkmen. Gos. Univ. Učen. Zap.* Ministerstvo Narodnogo Obrazovanija TSSR. Turkmeniskii Gosudarstvennyi Universitet imeni A. M. Gor'kogo. Učenyje Zapiski. (Ashkhabad)
- Tydskr. Natuurwetenskap.* Die Suid-Afrikaanse Akademie vir Wetenskap en Kuns. Tydskrif vir Natuurwetenskappe. (Pretoria)
- U.S.S.R. Computational Math. and Math. Phys.* U.S.S.R. Computational Mathematics and Mathematical Physics. (Oxford) (Translation of *Ž. Vyčisl. Mat. i Mat. Fiz.*)
- Überblicke Math.* Überblicke Mathematik. (Mannheim)
- Učen. Zap. Borisoglebsk. Gos. Ped. Inst.* Ministerstvo Prosveščeniya RSFSR. Učenyje Zapiski. Borisoglebskogo Gosudarstvennogo Pedagogičeskogo Instituta. (Borisoglebsk)
- Učen. Zap. Karel. Ped. Inst. Ser. Fiz.-Mat. Nauk.* Ministerstvo Prosveščeniya RSFSR. Karel'skii Pedagogičeskii Institut. Učenyje Zapiski. Serija Fiziko-Matematičeskikh Nauk. (Petrozavodsk)
- UIT Rep.* UIT Report. Ulsan Institute of Technology. (Ulsan) See *WIT Rep.*
- Ukrain. Fiz. Ž.* Akademija Nauk Ukrain'skoi RSR. Viddil Fiziki. Ukrain'skii Fizičeskii Žurnal. (Kiev) (Ukrainian edition)
- Ukrain. Fiz. Ž.* Akademija Nauk Ukrainskoi SSR. Otdelenie Fiziki. Ukrainskii Fizičeskii Žurnal. (Kiev) (Russian edition)
- Ukrain. Geometr. Sb.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya USSR. Ukrainskii Geometričeskii Sbornik. (Khar'kov)
- Ukrain. Mat. Ž.* Akademija Nauk Ukrainskoi SSR. Institut Matematiki. Ukrainskii Matematičeskii Žurnal. (Kiev) (Translated as: *Ukrainian Math. J.*)
- Ukrainian Math. J.* Ukrainian Mathematical Journal. (New York) (Translation of *Ukrain. Mat. Ž.*)
- Ul'janovsk. Gos. Ped. Inst. Učen. Zap.* Ul'janovskii Gosudarstvennyi Pedagogičeskii Institut imeni I. N. Ul'janova. Učenyje Zapiski. (Saratov)
- Univ. Allahabad Studies.* University of Allahabad Studies. (Allahabad)
- Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat. Fiz.* Univerzitet u Beogradu. Publikacije Elektrotehničkog Fakulteta. Serija Matematika i Fizika. (Belgrade)
- Univ. Beograd. Zb. Radova Građevn. Fak.* Univerzitet u Beogradu. Zbornik Radova Građevinskog Fakulteta u Beogradu. (Belgrade)
- Univ. Central Venezuela Bol. Fac. Ing.* Universidad Central de Venezuela. Boletín de la Facultad de Ingeniería. (Caracas)
- Univ. e Politec. Torino Rend. Sem. Mat.* Università e Politecnico di Torino. Rendiconti del Seminario Matematico (già "Conferenze di Fisica e di Matematica"). (Turin)
- Univ. Genova Pubbl. Ist. Mat.* Università di Genova Pubblicazioni dell'Istituto di Matematica. (Genova)
- Univ. Habana.* Universidad de la Habana. (Havana)
- Univ. Lisboa Revista Fac. Ci. A.* Universidade de Lisboa. Revista da Faculdade de Ciências. 2.ª Série. A. Ciências Matemáticas. (Lisbon)
- Univ. Madrid Publ. Sec. Mat. Fac. Ci.* Universidad de Madrid. Publicaciones de la Sección de Matemática de la Facultad de Ciencias. (Madrid)
- Univ. Nac. Ingen. Inst. Mat. Puras Apl. Notas Mat.* Universidad Nacional de Ingeniería. Instituto de Matemáticas Puras y Aplicadas. Notas de Matemáticas. (Lima)
- Univ. Nac. La Plata Publ. Fac. Ci. Fisicomat. Serie Segunda Rev. (or Contrib.)* Universidad Nacional de La Plata. Publicaciones de la Facultad de Ciencias Fisicomatemáticas. Serie Segunda. Revista (or Contribuciones). (La Plata)
- Univ. Nac. La Plata Publ. Fac. Ci. Fisicomat. Serie Tercera Publ. Esp.* Universidad Nacional de La Plata. Publicaciones de la Facultad de Ciencias Fisicomatemáticas. Serie Tercera. Publicaciones Especiales. (La Plata)
- Univ. Nac. Tucumán Rev. Ser. A.* Universidad Nacional de Tucumán. Facultad de Ciencias Exactas y Tecnología. Revista. Serie A. Matemáticas y Física Teórica. (Tucumán)
- Univ. Palermo Ann. Fac. Econom. e Commercio.* Università di Palermo. Annali della Facoltà di Economia e Commercio. (Palermo)
- Univ. Repúb. Fac. Ingen. Agrimens. Montevideo Publ. Inst. Mat. Estadist.* Universidad de la República. Facultad de Ingeniería y Agrimensura. Montevideo-Uruguay. Publicaciones del Instituto de Matemática y Estadística. (Montevideo)
- Univ. Roorkee Res. J.* University of Roorkee. Research Journal. (Roorkee)
- Univ. u Novom Sadu Zb. Rad. Prirod.-Mat. Fak.* Univerzitet u Novom Sadu. Zbornik Radova Prirodno-Matematičkog Fakulteta. (Novi Sad) (Formerly: *Godišnjak Filozof. Fak. u Novom Sadu*)
- Univ. Adama Mickiewicza w Poznaniu. Prace Wydz. Mat. Fiz. Chem. Ser. Mat.* Uniwersytet im. Adama Mickiewicza w Poznaniu. Prace Wydziału Matematyki, Fizyki i Chemii. Seria Matematyka. (Poznań)
- Univ. Śląski w Katowicach—Prace Mat.* Uniwersytet Śląski w Katowicach. Prace Matematyczne. (Katowice) (Formerly: *Wyż. Szkol. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat.*)
- Unternehmensforschung.* Unternehmensforschung. Operations Research—Recherche Opérationnelle. (Würzburg) (Continued as: *Ž. Operations Res. Ser. A-B*)
- Ural. Gos. Univ. Mat. Zap.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya RSFSR. Ural'skii Gosudarstvennyi Universitet im. A. M. Gor'kogo. Ural'skoe Matematičeskoe Obščestvo. Matematičeskie Zapiski. (Sverdlovsk)
- Ural. Politehn. Inst. Sb.* Ministerstvo Prosveščeniya RSFSR. Ural'skii Politehničeskii Institut im. S. M. Kirova. Sbornik. (Sverdlovsk)
- \*Urdmurt. i Glazov. Ped. Inst. Učen. Zap.* Urdmurtakogo i Glazovakogo Pedagogičeskogo Instituta Učenyje Zapiski. (Izhevsk) (May also appear as: *Urdmurt. Ped. Inst. Učen. Zap.*)
- \*Urdmurt. Ped. Inst. Učen. Zap.* Urdmurtakogo Pedagogičeskogo Instituta Učenyje Zapiski. (Izhevsk) (May also appear as: *Urdmurt. i Glazov. Ped. Inst. Učen. Zap.*)
- Uspshi Mat. Nauk. Akademija Nauk SSSR i Moskovskoe Matematičeskoe Obščestvo. Uspshi Matematičeskikh Nauk.* (Moscow-Leningrad) (Selected articles translated as: *Russian Math. Surveys*)

ABBREVIATIONS OF NAMES OF JOURNALS

- Utilitas Math.* Utilitas Mathematica. A Canadian Journal of Applied Mathematics, Computer Science, and Statistics. (Winnipeg)
- Ulgorod. Gos. Univ. Naučn. Zap.* MVO USSR. Ulgorodskii Gosudarstvennyi Universitet. Naučnye Zapiski. (Lvov)
- V. I. Lenin. Sakharth. Politekh. Inst. Šrom.* V. I. Leninis Sahelebis Šromis Čitheli Droleis Ordenosani Sakharthvelos Politekhnikuri Institut. Šromebi. (Tbilisi) (Formerly listed as: *Gruzín. Politehn. Inst. Trudy*)
- Verh. Konink. Vlaames Acad. Wetensch. Lett. Schone Kunst. België Kl.* Wetensch. Verhandlingen van de Koninklijke Vlaamse Academie voor Wetenschappen, Letteren en Schone Kunsten van België. Klasse der Wetenschappen. (Brussels)
- Vesci Akad. Navuk BSSR Ser. Fiz.-Mat. Navuk.* Vesci Akademii Navuk BSSR. Seriya Fizika-matematichnykh Navuk. (Minsk)
- Vestnik Akad. Nauk Kazah. SSR.* Vestnik Akademii Nauk Kazahskoi SSR. (Alma-Ata)
- \**Vestnik Akad. Nauk SSSR.* Vestnik Akademii Nauk SSSR. (Moscow)
- \**Vestnik Beloruss. Gos. Univ. Ser. I.* Vestnik Belorusskogo Gosudarstvennogo Universiteta imeni V. I. Lenina. Naučnyi Zhurnal. Seriya I. Matematika, Fizika, Mekhanika. (Minsk)
- Vestnik Har'kov. Gos. Univ.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya USSR. Vestnik Har'kovskogo Gosudarstvennogo Universiteta. Seriya Mekhaniko-Matematicheskaja. Zapiski Mekhaniko-Matematicheskogo Fakulteta i Har'kovskogo Matematicheskogo Obščestva. (Kharkov)
- Vestnik Har'kov. Politehn. Inst.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya USSR. Vestnik Har'kovskogo Politehnicheskogo Instituta. (Kharkov)
- Vestnik Leningrad. Univ.* Vestnik Leningradskogo Universiteta. (Leningrad)
- Vestnik Moskov. Univ. Ser. I Mat. Meh.* Vestnik Moskovskogo Universiteta. Seriya I. Matematika, Mekhanika. (Moscow) (Translated as: *Moscow Univ. Math. Bull.*)
- Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* Vestnik Moskovskogo Universiteta. Seriya III. Fizika, Astronomiya. (Moscow) (Translated as: *Moscow Univ. Phys. Bull.*)
- Vidya.* Vidya (Knowledge). The Journal of the Gujarat University. (Ahmedabad)
- Vierteljahr. Naturforsch. Gesellsch. Zürich.* Vierteljahresschrift der Naturforschenden Gesellschaft in Zürich. (Zürich)
- Việt Nam Dân Chủ Cộng Hòa Ủy Ban Khoa Học Nhà Nước.* See *Acta Sci. Vietnam.*
- Vijnana Parishad Anusandhan Patrika.* Vijana Parishad Anusandhan Patrika [The Research Journal of the Hindu Science Academy]. (Allahabad)
- Vikram—Quart. Res. J. Vikram Univ.* The Vikram. Quarterly Research Journal of Vikram University. (Ujjain)
- Visnik Kíiv. Univ.* Visnik Kíiv'skogo Universitetu. (Kiev)
- Visnik L'viv. Derž. Univ. Ser. Meh.-Mat.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya USSR. Visnik L'viv'skogo Ordena Lenina Deržavnogo Universitetu im. Ivana Franka. Seriya Mekhaniko-Matematichna. (Lvov)
- Visnik L'viv. Politehn. Inst.* Visnik L'viv'skogo Politehnicheskogo Instituta. (Lvov)
- Visi Ped. Inst. Plovdiv Naučn. Trud.* Visi Pedagogičeski Institut Plovdiv. Naučni Trudove. (Plovdiv)
- \**Vladimir. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosveščeniya RSFSR. Vladimirovskii Gosudarstvennyi Pedagogičeskii Institut imeni P. I. Lebedeva-Poljanskogo. Učenyi Zapiski. (Vladimir)
- Volgograd. Gos. Ped. Inst. Učen. Zap.* Ministerstvo Prosveščeniya RSFSR. Volgogradskogo Gosudarstvennogo Pedagogičeskogo Instituta im. A. S. Serafimoviča Učenyi Zapiski. (Volgograd)
- Vologod. Gos. Ped. Inst. Učen. Zap.* Vologodskii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Vologda) (May also appear as: *Vologod. i Čerepovec. Gos. Ped. Inst. Učen. Zap.*)
- Vologod. i Čerepovec. Gos. Ped. Inst. Učen. Zap.* Vologodskii Gosudarstvennyi Pedagogičeskii Institut. Čerepoveckii Gosudarstvennyi Pedagogičeskii Institut. Učenyi Zapiski. (Vologda) (May also appear as: *Vologod. Gos. Ped. Inst. Učen. Zap.*)
- Volž. Mat. Sb.* Ministerstvo Prosveščeniya RSFSR. Kuibyševskii Gosudarstvennyi Pedagogičeskii Institut imeni V. V. Kuibyševa. Volžskii Matematicheskii Sbornik. (Kuibyšev)
- Voprosy Istor. Estestvoznani. i Tehn.* Akademiya Nauk SSSR. Voprosy Istorii Estestvoznaniya i Tekhniki. (Moscow)
- Voprosy Kibernet. Vyčisl. Mat.* Akademiya Nauk Uzbekskoi SSR. Institut Kibernetiki i Vyčislitel'nykh Centrom. Voprosy Kibernetiki i Vyčislitel'noi Matematiki. (Tashkent)
- Voprosy Kosmog.* Akademiya Nauk SSSR. Voprosy Kosmogonii. (Moscow)
- \**Voronež. Gos. Univ. Sb. Naučn. Trudov Fak. Prikl. Mat. Meh. VGU.* Ministerstvo Vysshego i Srednego Special'nogo Obrazovaniya RSFSR. Voronežskii Ordena Lenina Gosudarstvennyi Universitet imeni Leninskogo Komsomola. Sbornik Naučnykh Trudov Fakulteta Prikladnoi Matematiki i Mekhaniki VGU. (Voronezh)
- \**Voronež. Gos. Univ. Trudy Naučn.-Issled. Inst. Mat. VGU.* Voronežskii Ordena Lenina Gosudarstvennyi Universitet im. Leninskogo Komsomola. Trudy Naučno-Issledovatel'skogo Instituta Matematiki VGU. (Voronezh)
- Voronež. Gos. Univ. Trudy Sem. Funktsional. Anal.* Ministerstvo Vysshego Obrazovaniya SSSR. Voronežskii Gosudarstvennyi Universitet. Trudy Seminara po Funktsional'nomu Analizu. (Voronezh)
- Voronež. Tehn. Inst. Trudy.* Voronežskii Tehnologičeskii Institut. Trudy. (Voronezh)
- Vyčisl. Prikl. Mat. (Kiev).* Kievskii Gosudarstvennyi Universitet. Mezhvedomstvennyi Naučnyi Sbornik. Vyčislitel'naja i Prikladnaja Matematika. (Kiev)
- Vyčisl. Sistemy.* Akademiya Nauk SSSR. Sibirskoe Otdelenie. Institut Matematiki. Vyčislitel'nye Sistemy. Sbornik Trudov. (Novosibirsk)
- Vyčisl. Tehn. Voprosy Programm.* Leningradskii Ordena Lenina Gosudarstvennyi Universitet imeni A. A. Ždanova. Kafedra Vyčislitel'noi Matematiki i Vyčislitel'nyi Centr. Vyčislitel'naja Tekhnika i Voprosy Programirovaniya. (Leningrad)
- Wiadom. Mat. Roczniki Polskiego Towarzystwa Matematycznego. Ser. II.* Wiadomości Matematyczne. (Warsaw)
- Wiss. Beiträge Martin-Luther-Univ. Halle-Wittenberg.* Wissenschaftliche Beiträge der Martin-Luther-Universität Halle-Wittenberg. (Halle-Wittenberg)
- Wiss. Z. Ernst-Moritz-Arndt-Univ. Greifswald Math.-Natur. Reihe.* Wissenschaftliche Zeitschrift der Ernst-Moritz-Arndt-Universität Greifswald. Mathematisch-Naturwissenschaftliche Reihe. (Greifswald)
- Wiss. Z. Friedrich-Schiller-Univ. Jena/Thüringen.* Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universität Jena/Thüringen. (Jena/Thüringen)
- Wiss. Z. Hochsch. Verkehrswesen "Friedrich List" Dresden.* Wissenschaftliche Zeitschrift der Hochschule für Verkehrswesen "Friedrich List" in Dresden. Die Anwendung mathematischer Methoden im Transport- und Nachrichtenwesen. (Dresden)
- Wiss. Z. Humboldt-Univ. Berlin Math.-Natur. Reihe.* Wissenschaftliche Zeitschrift der Humboldt-Universität Berlin. Mathematisch-Naturwissenschaftliche Reihe. (Berlin)
- Wiss. Z. Karl-Marx-Univ. Leipzig Math.-Natur. Reihe.* Wissenschaftliche Zeitschrift der Karl-Marx-Universität Leipzig. Mathematisch-Naturwissenschaftliche Reihe. (Leipzig)
- Wiss. Z. Martin-Luther-Univ. Halle-Wittenberg Math.-Natur. Reihe.* Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg. Mathematisch-Naturwissenschaftliche Reihe. (Halle-Wittenberg)
- Wiss. Z. Pädagog. Hochsch. Potsdam Math.-Natur. Reihe.* Wissenschaftliche Zeitschrift der Pädagogischen Hochschule Potsdam. Mathematisch-Naturwissenschaftliche Reihe. (Potsdam)

ABBREVIATIONS OF NAMES OF JOURNALS

*Wiss. Z. Techn. Hochsch. Chem. Leuna-Merseburg.* Wissenschaftliche Zeitschrift der Technischen Hochschule für Chemie Leuna-Merseburg. (Leuna-Merseburg)

*Wiss. Z. Techn. Hochsch. Ilmenau.* Wissenschaftliche Zeitschrift der Technischen Hochschule Ilmenau. (Ilmenau)

*Wiss. Z. Techn. Hochsch. Karl-Marx-Stadt.* Wissenschaftliche Zeitschrift der Technischen Hochschule Karl-Marx-Stadt. (Karl-Marx-Stadt)

*Wiss. Z. Techn. Univ. Dresden.* Wissenschaftliche Zeitschrift der Technischen Universität Dresden. (Dresden)

*WIT Rep.* WIT Report. Wulsan Institute of Technology. (Ulsan) See *UIT Rep.*

*Wyt. Szkol. Ped. Krakow. Rocznik Nauk.-Dydakt. Prace Mat. Wyższa Szkoła Pedagogiczna w Krakowie. Rocznik Naukowo-Dydaktyczny. Prace Matematyczne.* (Kraków)

*Wyt. Szkol. Ped. w Katowicach—Zeszyty Nauk. Sekc. Mat. Wyższa Szkoła Pedagogiczna w Katowicach. Zeszyty Naukowe. Sekcja Matematyki.* (Katowice) (Continued as: *Uniw. Śląski w Katowicach—Prace Mat.*)

*WZE Wiss. Z. Elektrotech.* WZE Wissenschaftliche Zeitschrift der Elektrotechnik. (Leipzig)

*Yokohama Math. J.* Yokohama Mathematical Journal. (Yokohama)

*Z. Angew. Math. Mech.* Zeitschrift für Angewandte Mathematik und Mechanik. Ingenieurwissenschaftliche Forschungsarbeiten. (Berlin)

*Z. Angew. Math. Phys.* Zeitschrift für Angewandte Mathematik und Physik. ZAMP. Journal of Applied Mathematics and Physics. Journal de Mathématiques et de Physiques Appliquées. (Basel)

*Ž. Eksper. Teoret. Fiz. Akademija Nauk SSSR. Žurnal Ėksperimental'noj i Teoretičeskoj Fiziki.* (Moscow) (Translated as: *Soviet Physics JETP*)

*\*Z. Elek. Informations- und Energietechn.* Zeitschrift für Elektrische Informations- und Energietechnik. (Leipzig)

*Z. Math. Logik Grundlagen Math.* Zeitschrift für Mathematische Logik und Grundlagen der Mathematik. (Berlin)

*Z. Naturforsch.* Zeitschrift für Naturforschung. (Tübingen)

*Z. Operations Res. Ser. A-B.* Zeitschrift für Operations Research. Serie A. Serie B. (Würzburg) (Formerly: *Unternehmensforschung*)

*Z. Phonetik Sprachwiss. Kommunikat.* Zeitschrift für Phonetik Sprachwissenschaft und Kommunikationsforschung. (Berlin)

*Z. Physik.* Zeitschrift für Physik. (Berlin)

*Ž. Prikl. Meh. i Tehn. Fiz.* Žurnal Prikladnoj Mehaniki i Tehničeskoj Fiziki. (Moscow) (Translated as: *J. Appl. Mech. Tech. Phys.*)

*Ž. Vychisl. Mat. i Mat. Fiz. Akademija Nauk SSSR. Žurnal Vychislitel'noj Matematiki i Matematičeskoj Fiziki.* (Moscow) (Translated as: *U.S.S.R. Computational Math. and Math. Phys.*)

*Z. Wahrscheinlichkeitstheorie und Verw. Gebiete.* Zeitschrift für Wahrscheinlichkeitstheorie und Verwandte Gebiete. (Berlin)

*Zap. Meh.-Mat. Fak. i Har'kov. Mat. Obšč.* See *Vestnik Har'kov. Gos. Univ.*

*Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI).* Zapiski Naučnyh Seminarov Leningradskogo Otdelenija Matematičeskogo Instituta im. V. A. Steklova Akademii Nauk SSSR (LOMI). (Moscow) (Translated as: *Sem. Math. V. A. Steklov Math. Inst. Leningrad*)

*Zastos. Mat. Polska Akademia Nauk. Instytut Matematyczny. Zastosowania Matematyki.* (Warsaw)

*Zbl. Zentralblatt für Mathematik und ihre Grenzgebiete.* (Berlin)

*Zbl. Math.* Zentralblatt für Mathematik und ihre Grenzgebiete (Berlin-Göttingen-Heidelberg) (Usually abbreviated *Zbl* in the text of *Math. Reviews*)

*Zeszyty Nauk. Akad. Górno-Hutniczej—Math.-Fiz.-Chem. Zeszyty Naukowe Akademii Górniczo-Hutniczej im. Stanisława Staszica. Matematyka-Fizyka-Chemia.* (Kraków)

*Zeszyty Nauk. Mat. Fiz. i Chem. Wyt. Szkol. Ped. Gdańsk.* Zeszyty Naukowe Matematyka Fizyka i Chemia. Wyższa Szkoła Pedagogiczna w Gdańsku. Wydział Matematyki, Fizyki i Chemii. (Gdańsk)

*Zeszyty Nauk. Politech. Poznań.* Zeszyty Naukowe Politechniki Poznańskiej. (Poznań)

*Zeszyty Nauk. Politech. Śląsk. Automat.* Zeszyty Naukowe Politechniki Śląskiej. Automatyka. (Gliwice)

*Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz.* Zeszyty Naukowe Politechniki Śląskiej-Matematyka-Fizyka. (Gliwice)

*Zeszyty Nauk. Politech. Szczeciń.* Zeszyty Naukowe Politechniki Szczecińskiej. (Szczecin)

*Zeszyty Nauk. Uniw. Jagiello. Prace Fiz.* Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace Fizyczne. (Kraków)

*Zeszyty Nauk. Uniw. Jagiello. Prace Mat.* Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace Matematyczne. (Matematyka, Fizyka, Chemia) (Kraków)

*Zeszyty Nauk. Uniw. Jagiello. Prace z Logiki.* Zeszyty Naukowe Uniwersytetu Jagiellońskiego. Prace z Logiki. (Kraków)

*Zeszyty Nauk. Uniw. Łódź. Nauki Mat. Przyrod. Ser. II.* Zeszyty Naukowe Uniwersytetu Łódzkiego. Nauki Matematyczno-Przyrodnicze. Seria II. (Łódź)

*Zeszyty Nauk. Wyt. Szkol. Ped. Opol.* Zeszyty Naukowe Wyższej Szkoły Pedagogicznej w Opolu. (Opole)

*Zhongguo Kexue Jishu Daxue Xuebao.* (Peking) See *J. China Univ. Sci. Techn.*



# JOURNALS IN TRANSLATION

- Acta Mech. Sinica* (New York). *Acta Mechanica Sinica*. (New York) (Translation of *Acta Mech. Sinica* (Peking))
- Algebra and Logic*. *Algebra and Logic*. (New York) (Translation of *Algebra i Logika*)
- Astrophysica*. *Astrophysics*. (A translation of *Astrofizika* of the Academy of Sciences of the Armenian SSR). (New York) (Translation of *Astrofizika*)
- Automat. Control*. *Automatic Control*. (A translation of *Avtomatika i Vychislitel'naja Tehnika*). (New York) (Translation of *Avtomat. i Vychisl. Tehn.*)
- Automat. Remote Control*. *Automation and Remote Control*. (A translation of *Avtomatika i Telemekhanika*, a publication of the Academy of Sciences of the USSR). (Pittsburgh, Pa.) (Translation of *Avtomat. i Telemekh.*)
- Chinese J. Phys. (Peking)*. *Chinese Journal of Physics (Peking)*. (A translation of *Acta Physica Sinica* of the Chinese Academy of Sciences, Peking). (New York) (Translation of *Acta Phys. Sinica*)
- Chinese Math.*—*Acta. Chinese Mathematics*. Translation of *Acta Mathematica Sinica*. (Providence, R.I.) (Translation of *Acta Math. Sinica*)
- Cybernetics*. *Cybernetics*. (New York) (A translation of *Kibernetika* (Kiev))
- Differential Equations*. *Differential Equations*. (New York) (Translation of *Differentsial'nye Uravnenija*)
- Electron. Commun. Japan*. *Electronics and Communications in Japan*. The Transactions of the Institute of Electronics and Communication Engineers of Japan. (Washington, D.C.) (A partial translation of *Denshi Tsushin Gakkai Ronbunshi*. See also: *Systems-Computers-Controls*)
- Engng. Cybernetics*. *Engineering Cybernetics*. English Edition of *Tekhnicheskaja Kibernetika*. (New York) (Translation of *Izv. Akad. Nauk SSSR Tehn. Kibernet.*)
- Fluid Dynamics*. *Fluid Dynamics*. (New York) (Translation of *Izv. Akad. Nauk SSSR Ser. Meh. Zhidk. Gaza*)
- Functional Anal. Appl.* *Functional Analysis and its Applications*. (New York) (Translation of *Funkcional. Anal. i Priložen.*)
- Geodes. and Aerophot.* *Geodesy and Aerophotography*. (Washington, D.C.) (Translation of *Izv. Vysš. Učebn. Zaved. Geod. i Aerofot.*)
- Izv. Acad. Sci. USSR Atmospher. Ocean. Phys.* *Izvestiya Academy of Sciences USSR. Atmospheric and Oceanic Physics*. (Washington, D.C.) (Translation of *Izv. Akad. Nauk SSSR Ser. Fiz. Atmosfer. i Okeana*)
- Izv. Acad. Sci. USSR Phys. Solid Earth*. *Izvestiya Academy of Sciences USSR. Physics of the Solid Earth*. (Washington, D.C.) (Translation of *Izv. Akad. Nauk SSSR Ser. Fiz. Zemli*)
- J. Appl. Math. Mech.* *Journal of Applied Mathematics and Mechanics*. (Translation of the Soviet journal *Prikladnaja Matematika i Mehanika*). (New York) (Translation of *Prikl. Mat. Meh.*)
- J. Appl. Mech. Tech. Phys.* *Journal of Applied Mechanics and Technical Physics*. (New York) (Translation of *Ž. Prikl. Meh. i Tehn. Fiz.*)
- Magnetohydrodynamics*. *Magnetohydrodynamics*. (A translation of *Magnitnaya Gidrodinamika* of the Academy of Sciences of the Latvian SSR). (New York) (Translation of *Magnit. Gidrodinamika*)
- Math. Notes*. *Mathematical Notes of the Academy of Sciences of the USSR*. (New York) (Translation of *Mat. Zametki*)
- Math. USSR-Izv.* *Mathematics of the USSR-Izvestija*. (Providence, R.I.) (Translation of *Izv. Akad. Nauk SSSR Ser. Mat.*)
- Math. USSR-Sb.* *Mathematics of the USSR-Sbornik*. (Providence, R.I.) (Translation of *Mat. Sb.*)
- Mechanics of Solids*. *Mechanics of Solids*. (New York) (Translation of *Izv. Akad. Nauk SSSR Meh. Tverd. Tela*)
- Moscow Univ. Math. Bull.* *Moscow University Mathematics Bulletin*. (New York) (Translation of the mathematics section of *Vestnik Moskov. Univ. Ser. I Mat. Meh.*)
- Moscow Univ. Phys. Bull.* *Moscow University Physics Bulletin*. (New York) (Translation of *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.*)
- Probleme der Kybernetik*. *Probleme der Kybernetik*. (Berlin) (Translation of *Problemy Kibernet.*)
- Problems of Information Transmission*. *Problems of information Transmission*. (New York) (Translation of *Problemy Peredači Informacii*)
- Proc. Steklov Inst. Math.* *Proceedings of the Steklov Institute of Mathematics*. (Providence, R.I.) (Translation of *Trudy Mat. Inst. Steklov.*)
- Proc. (Trudy) P. N. Lebedev Phys. Inst.* *Proceedings (Trudy) of the P. N. Lebedev Physics Institute*. (New York/London) (Translation of *Trudy Fiz. Inst. Lebedev.*)
- Radio Engng. Electron. Phys.* *Radio Engineering and Electronic Physics*. (Translation of *Radiotekhnika i Elektronika*, a U.S.S.R. Academy of Sciences Publication). (New York) (Translation of *Radiotekhn. i Elektron.*)
- Radiophys. and Quantum Electronics*. *Radiophysics and Quantum Electronics*. (A translation of *Izvestija Vysših Učebnyh Zavedenii Radiofizika* of the Ministry of Higher Education of the USSR). (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Radiofizika*)
- Russian Math. Surveys*. *Russian Mathematical Surveys*. (A translation of the survey articles and of selected biographical articles in *Uspehi Matematičeskikh Nauk*). (London) (Translation of *Uspehi Mat. Nauk*)
- Sem. Math. V. A. Steklov Math. Inst. Leningrad*. *Seminars in Mathematics V. A. Steklov Mathematical Institute Leningrad*. (New York) (Translation of *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)*)
- Siberian Math. J.* *Siberian Mathematical Journal*. (New York) (Translation of *Sibirsk. Mat. Ž.*)
- Soviet Aeronaut.* *Soviet Aeronautics*. (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Aviacion. Tehn.*)
- Soviet Appl. Mech.* *Soviet Applied Mechanics*. (New York) (Translation of *Prikladna. Meh.*)
- Soviet Astronom. AJ.* *Soviet Astronomy. AJ.* (A translation of *Astronomičeskij Žurnal*, the astronomical journal of the Academy of Sciences of the USSR). (New York) (Translation of *Astronom. Ž.*)
- Soviet Automat. Control*. *Soviet Automatic Control*. (New York) (Translation of *Avtomatika*)
- Soviet J. Nuclear Phys.* *American Institute of Physics. Soviet Journal of Nuclear Physics*. (New York) (Translation of *Jadernaja Fiz.*)
- Soviet J. Particles and Nuclei*. *Soviet Journal of Particles and Nuclei*. (New York) (Translation of *Fiz. Elementar. Častic. i Atom. Jadra*)
- Soviet Math. Dokl.* *Soviet Mathematics. Doklady*. (A translation of the mathematics section of *Doklady Akademii Nauk SSSR*). (Providence, R.I.) (Translation of mathematics section of *Dokl. Akad. Nauk SSSR*)
- Soviet Physics Acoust.* *Soviet Physics. Acoustics*. (A translation of *Akustičeskij Žurnal* of the Academy of Sciences of the USSR). (New York) (Translation of *Akust. Ž.*)
- Soviet Physics Dokl.* *Soviet Physics. Doklady*. (A translation of the physics sections of *Doklady Akademii Nauk SSSR*). (New York) (Translation of physics sections of *Dokl. Akad. Nauk SSSR*)
- Soviet Physics J.* *Soviet Physics Journal*. (New York) (Translation of *Izv. Vysš. Učebn. Zaved. Fizika*)
- Soviet Physics JETP*. *Soviet Physics. JETP*. (A translation of *Ž. Eksperimental'noi i Teoretičeskoj Fiziki* of the USSR). (New York) (Translation of *Ž. Eksper. Teoret. Fiz.*)
- Systems-Computers-Controls*. *Systems-Computers-Controls*. The Transactions of the Institute of Electronics and Communication Engineers of Japan. (Washington, D.C.) (A partial translation of *Denshi Tsushin Gakkai Ronbunshi*. See also: *Electron. Commun. Japan*)

*Systems Theory Res.* Systems Theory Research. (New York) (Translation of *Problemy Kibernet.*)

*Theor. Probability Appl.* Theory of Probability and its Applications. (An English translation of the Soviet journal *Teoriya Veroyatnostei i ee Primeneniya*). (Philadelphia, Pa.) (Translation of *Teor. Veroyatnost. i Primenen.*)

*Theoret. and Math. Phys.* Theoretical and Mathematical Physics. (New York) (Translation of *Theoret. Mat. Fiz.*)

*Trans. Moscow Math. Soc.* Transactions of the Moscow Mathematical Society. (Providence, R.I.) (Translation of *Trudy Moskov. Mat. Obšč.*)

*U.S.S.R. Computational Math. and Math. Phys.* U.S.S.R. Computational Mathematics and Mathematical Physics. (Oxford) (Translation of *Ž. Vychisl. Mat. i Mat. Fiz.*)

*Ukrainian Math. J.* Ukrainian Mathematical Journal. (New York) (Translation of *Ukrain. Mat. Ž.*)

# ERRATA AND ADDENDA

## VOLUME 16

p. 798: Prachar, K.

In the title, change " $d(\alpha p)$ " to " $e(\alpha p)$ ".

## VOLUME 23

#A1538: Fitch, Frederic B.

The reviewer wishes to add the following remarks to his review. "In my review of this paper I stated wrongly that the proposed system, which combines the main features of the author's 'extended basic logic' [the author, J. Symbolic Logic 13 (1948), 95-106; MR 9, 559] with a principle of extensionality, was inconsistent and therefore the proposed consistency proof contained an error. This is unjustified—I was working from an earlier draft rather than the published version. The system differs from that of the earlier work [loc. cit.] in two principal respects. (1) An arbitrary formula  $a$  is interdeducible with  $(x)ax$  and (2) if  $ac$  and  $bc$  are mutually deducible for every  $c$ , and so are  $\sim(ac)$  and  $\sim(bc)$ , then  $a=b$  is a theorem. (We simplify slightly for ease of exposition.) In order to avoid a form of the Russell paradox mentioned by the author in a previous article [J.

Symbolic Logic 23 (1958), 13-21, especially pp. 20-21; MR 20 #6978], Rule (2) must be restricted in approximately the following way. The formal rules which embody (1) may not be used in the deductions mentioned in (2), and the rule of 'substitution of equals for equals' may be used in those deductions only in two special cases: ( $\alpha$ ) if  $\phi a$  and  $a=b$  are theorems (not merely consequences of given hypotheses) so is  $\phi b$ , and ( $\beta$ ) if  $\phi a$  is of the form  $d=e$  or  $\sim(d=e)$  then  $\phi b$  is a consequence of  $\phi a$  and  $a=b$ . With these corrections (not stated in the manuscript from which I worked) the proposed consistency proof is valid, and in fact the resulting system enjoys a flexibility not shared by the system of the author's 1958 paper [loc. cit.], where the rule of 'substitution of equals for equals' may not be used at all in the deductions mentioned in (2)."

## VOLUME 24

#A1260: Golubev, V. A.; Fomenko, O. M.

Following the period in the title, add "(Russian)".

## VOLUME 30

#2636: Torgerson, Erik N.

The author's surname is misspelled. It should be Torgersen.

### Index for Volume 30

On page 1165 change Torgerson to Torgersen.

## VOLUME 32

#1186: Mordell, L. J.

The heading as printed combines the bibliographical information for Parts II, III of the article, published in two different journals. This heading should be split in two as shown and given the MR numbers indicated.

Mordell, L. J.

Irrational power series. II.

Acta Arith. 11 (1965), 181-188.

1186a

Mordell, L. J.

Irrational power series. III.

Proc. Amer. Math. Soc. 16 (1965), 819-821.

1186b

## VOLUME 33

#7598: Djaja, Časlav

After the author's name add "[Daja, Časlav]".

### Index for Volume 33

On page 1470 change the entry for Časlav Djaja to read "See Daja, Časlav" and transfer item 7598 to a new entry for Časlav Daja on page 1468.

## VOLUME 37

#2727: Armitage, J. V.

The second reference has the wrong MR number. It should be MR 28 #86.

#6758: Brooks, R. M.

In the title, change " $M$ -convex" to " $m$ -convex".

#3230: Aczél, S.

In line 2 change "the author's book" to "the book of J. Aczél".

## VOLUME 38

#705: Goordiek, Richard E.

After the author's name add "[Goodrick, Richard E.]".

#3014: Terleckii, Ja. P.

In the heading, change "Hoffman" to "Hoffmann".



## VOLUME 38 cont.

## Index for Volume 38

On page 1274 change the entry for Richard E. Goordick to read "See Goodrick, Richard E." and transfer item 705 to a new entry for Richard E. Goodrick. On page 1280 change Banesh Hoffman to Banesh Hoffmann and move the entry to a new alphabetical position.

## VOLUME 39

## #1945: Giesy, Daniel P.

In line 3 change " $B(X, Y)$  is  $B$ -convex" to " $B(X, Y)$  is not  $B$ -convex".

## #7926: In the title, change "economic studies" to "economic research".

## #7940: Trubin, V. A.

In the heading, change "Economic Studies" to "Economic Research".

## Index for Volume 39

In the last entry of the first column on page 1559 change "economic studies" to "economic research".

## VOLUME 41

## #1113: Arsemišvili, G. L.; Ežov, I. I.

The surname of the first author has been misspelled. It should read "Arsenišvili".

## #1601: Beran, Ladislav

In the heading, change "*G. Pisol*" to "*C. Pisol*".

## #5735: Djaja, Časlav

After the author's name add "[Daja, Časlav]".

## #8335: Krishna, H. V.

In lines 2 and 9 change Horadem to Horadam.

## Index for Volume 41

On page 1789 change Arsemišvili to Arsenišvili and move the entry to a new alphabetical position. On page 1813 change the entry for Časlav Djaja to read "See Daja, Časlav" and transfer item 5735 to a new entry on page 1810 for Časlav Daja. On page 1818, in the entry for I. I. Ežov, change Arsemišvili to Arsenišvili.

## VOLUME 42

## #617: Džaja, Časlav

After the author's name add "[Daja, Časlav]".

## #2199: Šoda, Zenon

After the author's name add "[Szoda, Zenon]".

## #5371: Cohen, Arthur; Sackbrowitz, Harold B.

The surname of the second author has been misspelled. It should be Sackrowitz.

## #6022: Jøndrup, S.

The final version of this article appears in Proc. Amer. Math. Soc. 28 (1971), 431-435 [MR 43 #3294].

## #6681: McDanell, J. P.; Powers, W. F.

The final version of this article appears in AIAA J. 8 (1970), 1416-1420 [MR 42 #928].

## #8884: Zak, Yu. A. [Zak, Ju. A.]

In the bracketed name change "A." to "O.".

## Index for Volume 42

On page 1668, in the entry for Arthur Cohen change "with Sackbrowitz, Harold B." to "with Sackrowitz, Harold B.". On page 1675 change the entry for Časlav Džaja to read "See Daja, Časlav" and transfer item 617 to the entry for Časlav Daja on page 1670. On page 1753 change Harold B. Sackbrowitz to Harold B. Sackrowitz. On page 1763 change the entry for Zenon Šoda to read "See Szoda, Zenon" and transfer item 2199 to a new entry for Zenon Szoda on page 1769. On page 1785 change the entry for Yu. A. Zak to read "See Zak, Ju. O." and transfer item 8884 to a new entry for Ju. O. Zak.

## VOLUME 43

## #130: Torkalanov, Kr.

After the author's name add "[T'rkanov, Kr.]".

## #169: Joris, Henri

In the title, change  $\Lambda$  to  $\Omega$ .

## #448: Mitrović, D. S.

On page 87, in line 1 of column 2, replace " $-(x-1)^4/6480$ " by " $-(x-1)^4/1620$ ".

## #911: Schempp, Walter

In lines 3 and 5 change  $E_C^m(\Omega)$  to  $E_C'^m(\Omega)$ . In line 3 from the bottom change  $E_C^m(\Omega)$  to  $E_C'^m(\Omega)$ .

## #1855: Ghilezan, Coriolan

After the author's name add "[Gilezan, Koriolan]".

## #3045: Alad'ev, V.

After the author's name add "[Aladjev, V.]".

## VOLUME 43 cont.

- #3340: Coroninas, Ernest  
After the author's name add "[Corominas, Ernesto]".
- #3800: Vasilach, Serge  
After the author's name add "[Vasilache, Sergiu]".
- #4575: Gilezan, Koriolan  
In the last line change  $U = 3$  to  $u = 3$ .
- #5218: Boyanov, B.  
After the name of the author add "[Bojanov, B.]".
- #6215: Neumann, Olaf  
In lines 9 and 10 "results due to M. Deuring and A. P. Ogg" should read "results due to M. Deuring, I. R. Šafarevič and A. P. Ogg".
- #6436: Lepson, Benjamin  
The author has communicated the following corrections to his article, which also appears in *J. Math. Anal. Appl.* **36** (1971), 371–376 [MR **44** #6961]. The paging follows that of the latter version. Replace  $\log k(r)$  by  $\log^+ k(r)$  on p. 371, l. -4, p. 374, l. 15; similarly for  $\log h(r)$  on p. 374, l. 15, p. 375, l. 18, and for  $\log p(r)$  on p. 374, l. 20 and l. -5.
- #6953: Mason, W. K.  
In lines 6 and 7 from the bottom change  $M$  to  $H(M)$ .
- #7188: Kopezyński, W.; Woronowicz, L. S.  
After the name of the second author add "[Woronowicz, S. L.]".

- #7783: Vasilach, Serge  
After the author's name add "[Vasilache, Sergiu]".
- #7892: Ajašinov, M. M.; Kasymov, K. A.  
In line 2 from the bottom change " $y_0(X)$ " to " $y_0(x)$ ".
- #7896: Vasilach, Serge  
After the author's name add "[Vasilache, Sergiu]".

## Index for Volume 43

On page 1534 change the entry for V. Alad'ev to read "See Aladjev, V." and transfer item **3045** to a new entry for V. Aladjev. On page 1546 change the entry for B. Boyanov to read "See Bojanov, B. and transfer item **5218** to a new entry for B. Bojanov. On page 1554 change the entry for Ernest Coroninas to read "See Corominas, Ernesto" and transfer item **3340** to a new entry for Ernesto Corominas. On page 1568 change the entry for Koriolan Ghilezan to read "See Gilezan, Koriolan" and transfer item **1855** to the entry for Koriolan Gilezan on page 1569. On page 1648 change the entry for Kr. Torkalanov to read "See T'rkalanov, Kr." and transfer item **130** to a new entry for Kr. T'rkalanov. On page 1651 change the entry for Serge Vasilach to read "See Vasilache, Sergiu" and transfer items **3800**, **7783** and **7896** to a new entry for Sergiu Vasilache. On page 1657 change the entry for L. S. Woronowicz to read "See Woronowicz, S. L." and transfer item **7188** to a new entry for S. L. Woronowicz.

## VOLUME 44

- #15: Matvišin, Ja. A.  
The author's surname was misspelled. It should be Matviišin.
- #1114: El Karoui, Nicole  
After the name of the author add "[Karoui, Nicole]".
- #1258: Alefeld, Götz  
On page 240, line 18 should read " $x = a \square x \boxplus b$  und  $x = a \square x \boxplus b$ , wobei . . .".
- #1526: Beletskii, M. I. [Belecskil, M. I.]  
In the name in brackets change Belecskil to Beleckii.
- #1626: Andrianov, A. N.; Fomenko, O. M.  
The title should read: "Distribution of the norms of the hyperbolic elements of the modular group and of the number of classes of indefinite binary quadratic forms."
- #1628: Kitaoka, Yoshiyuki  
In line 4 from the bottom replace  $K$  by  $k$ .
- #1631: Kaufman, R. M.  
In the title, change "of the linear form" to "of a linear form".
- #1799: Pommerenke, Ch.  
In line 3 of the second paragraph replace  $L \geq B > \frac{1}{2}$  by  $L \geq B_0 > \frac{1}{2}$ . In line 6 of that paragraph replace  $B > \frac{1}{2}$  by  $B > \sqrt{(3/4)}$ .
- #2395: Chen, Y. M. [Chen, Yung-ming]  
In the bracketed name change Yung-ming to Yung Ming.
- #3067 Kis, O.  
In the heading replace (1971) by (1971/72).
- #3753  
In the title, change "computing techniques" to "computer technology".
- #4045: Luh, Jiang  
In the heading replace (1971) by (1971/72).
- #4048: Guseva, I. L.  
Change the reviewer's name from *L. Š. Toffe* to *L. Š. Ioffe*.
- #4092: Lee, M. A.  
In the heading replace (1971) by (1971/72).

## VOLUME 44 cont.

#4120: Kiss, I.

In the heading replace (1971) by (1971/72).

#4449: Alexits, G.; Sharma, A.

In the heading replace (1971) by (1971/72).

#4615: Bachmann, G.

In line 6 insert "erklärte" between the bracket and the word "er".

#4661: Ivanova-Karatopraklieva, Ivanka

In the reference in line 4, change Ščerbakov to Ščerbakov.

#5263: Kappos, D. A.; Kehayopulu, Niovi

The surname of the second author is misspelled. It should be Kehayopulos.

#5285: Motohashi, Y.

In the heading replace (1971) by (1971/72).

#5308: Hanna, A.; Yaqub, F. M.

In the heading replace (1971) by (1971/72).

#5376: Hart, N.

In the heading replace (1971) by (1971/72).

#5400: Falconer, E.

In the heading replace (1971) by (1971/72).

#5419: Freud, G.

In the heading replace (1971) by (1971/72).

#5857: Gallai, T.

In the heading replace (1971) by (1971/72).

#6033: Šaranov, V. G.

The author's surname is misspelled. It should be Šarapov.

#6332: Zak, Ju. A.

After the name of the author add "[Zak, Ju. O.]".

#6336: Anderson, J. M.; Binmore, K. G.

This article was incorrectly included in the section on ECONOMICS, OPERATIONS RESEARCH, PROGRAMMING AND GAMES. It should have been included in the section on FUNCTIONS OF A COMPLEX VARIABLE, between reviews #5461 and #5462.

#6503: Rao, B. V.

In the heading replace (1971) by (1971/72).

#6529: Glivjak, F.; Plesnik, J.

In the heading replace (1971) by (1971/72).

#6658: Wagner, Carl G.

The next to the last sentence should read as follows. "The author also shows that if  $f$  is as above,  $L_1 = (x^q - x)(x^{q-1} - x) \cdots (x^2 - x)$ ,  $L_0 = 1$  and  $(\Delta^j f(1)/L_1)$  is a null sequence, then  $f$  is everywhere differentiable in  $K[[x]]$  and  $f'(t) = \sum_{j=0}^{\infty} (-1)^j \Delta^j f(1)/L_1$ ."

#7191: Endl, K.

In the heading replace (1971) by (1971/72).

#7204: Kis, O.

In the heading replace (1971) by (1971/72).

## Index for Volume 44

On page 1479 change the entry for M. I. Belecakii to read M. I. Beleckii. Change the entry for M. I. Beletskii to read "See Beleckii, M. I.". On page 1490 change Yung-ming Chen to Yung Ming Chen. On page 1523, in the entry for D. A. Kappos, change Kehayopulu to Kehayopulos. On page 1525 change Niovi Kehayopulu to Niovi Kehayopulos. On page 1541 change the entry for Ja. A. Matvišin to read Ja. A. Matviškin. On page 1568 change V. G. Šaranov to V. G. Sarapov. On page 1595 change the entry for Ju. A. Zak to read "See Zak, Ju. O." and transfer item 6332 to a new entry for Ju. O. Zak. On page 1596, under the entry for Biological cybernetics, change "Cybernetics and computing techniques" to "Cybernetics and computer technology". On page 1597 change "Cybernetics and computing techniques" to "Cybernetics and computer technology".

## VOLUME 45

#94: Gibson, P. M.

In the fourth line change "two equal parts" to "k equal parts".

#197: Lovász, L.

In the heading replace (1971) by (1971/72).

#198: Suryanarayana, D.; Sitaramachandrarao, R.

The second author's name should be written Sitaramachandra Rao, R.

#215: Wolke, D.

In the heading replace (1971) by (1971/72).

#424: Šain, B. M.

In the heading replace (1971) by (1971/72).

#473: Losonczy, L.

In the heading replace (1971) by (1971/72).

#642: Los', G. A.

After the author's name add "[Los', G. P.]".

#802: Vértési, P. O. H.

In the heading replace (1971) by (1971/72).

#899: Vasilach, Serge

After the author's name add "[Vasilache, Sergiu]".

#1163: Harrison, Jerome; Stasheff, James

In the last line change "MR 43 #6911" to "MR 43 #6311".

#1241: Sil'vestrov, D. S.

In line 4 replace  $\kappa_s(k)$  by  $\kappa(k)$ . In lines 8 and 11 replace S by Š.



## VOLUME 45 cont.

#1267: **Ēlov, Ī. Ī.; Gergely, T.; Cukanov, I. N.**

After the name of the third author add "[Cukanov, Ī. M.]".

#1396: **Babuška, Ivo**

In the title, change "Hill functions" to "hill functions".

#1434: **Zav'jalov, Ju. S.**

This article was misclassified as GENERAL APPLIED MATHEMATICS. It should have been included in the section on COMPUTING MACHINES, following review #1433.

#1466: **Germain, Jean-Pierre**

In the title, change "equ" to "eau".

#2089a: **Martin, Christiane**In the title, change  $so(4, 1)$  to  $SO(4, 1)$ .#2089b: **Martin, Christiane**In the title, change  $so(4, 1)$  to  $SO(4, 1)$ .✱ #2272: **Burton, T.; Grimmer, R.**

The reviewer wishes to delete the following sentences: "However, it should perhaps be mentioned that the a priori assumptions made in Theorem 1 are in fact sufficient conditions for oscillation and boundedness of all solutions of (\*), respectively. Thus, in a strict sense, condition (\*\*) may be considered only as a necessary condition for the oscillation or boundedness of (\*)." They should be replaced by the following: "However, it should perhaps be mentioned that under the additional assumption that  $\int_{-\infty}^{\infty} f(x) dx = +\infty$ , the a priori assumption on  $a(t)$  is a known sufficient condition for boundedness and oscillation. The fact that a mixed divergence condition involving both  $a$  and  $f$  becomes a necessary and sufficient condition is indeed a significant improvement."

✱ #2412: **Rigelhof, Roger**

The author has supplied a correction to his paper, the relevant portions of which are quoted here. "There is a gap in the proof of '(c) implies (a)' of Theorem 1. It is not difficult to show directly that (b) implies (a)... The effect on the remainder of the paper is the following: Part (c) of Theorems 6 and 8 must be deleted. Theorems 2 and 7 and the Corollary that follows need the obvious strengthening of the hypothesis so that Theorem 1(b) can be applied. Theorem 3 is valid; however somewhat more than Lemma 2 is required, essentially Lemma 3.1 of G. I. Gaudry's article [Pacific J. Math. 18 (1966), 461-476; MR 34 #3352]. In the remark at the end of the paper  $Q_p^a$  should be replaced by  $P_p^p$ ."

#2451: **Mil'man, V. D.**

It has been pointed out to the editors by R. M. Dudley that a reference for the isoperimetric inequality referred to in the reviewer's remark is given by a paper of E. Schmidt [Math. Nachr. 1 (1948), 82-157; MR 10, 471; ibid. 2 (1949), 172-244; MR 11, 534].

#3430: **Gibson, P. M.**In the next to the last line change  $\sum_{m=1}^k$  to  $\sum_{m=1}^{k-1}$ .#3488: **Lyhmus, Ja.**

After the name of the author add "[Löhms, J.]".

#3657: **Rahman, Q. I.**In the first line of the review insert "[see #3656 above]" after the formula " $\sum_0^n a_k x^k$ ".#3869: **Nguyen, Van Dao**

Remove the comma after the name "Nguyen" in brackets.

#4019: **Leont'ev, A. F.**

In the title, change "exponents" to "exponentials".

#4023: **Ivanov, L. D.**

In the title, change "l-smooth" to "l-smooth".

#4807: **Gaïndrik, K. V.; Žitkov, V. A.**

In the reference contained in the third line from the bottom, change "1 (1965)" to "4 (1965)".

#4816: **Zimin, I. N.; Ivanov, Ju. P.**

The entry for Ivanov, Ju. P. should be Ivanilov, Ju. P.

#5154: **Heuvers, Kondar J.**

The author's name should be written Heuvers, Konrad J.

#6497: **Bakule, Lubomír**

In the title, change "uncomplete" to "incomplete".

#6852: **Brodskii, G. M.**

In the heading, change "(1971)" to "(1972)".

#6938: **Čadaev, V. I.**

In the second line change MR 47 #6851 to MR 44 #6851.

#7082: **Tihonenko, N. Ja.**

After the name of the author add "[Tihonenko, M. Ja.]".

#7195: **Los', G. A.**

After the name of the author add "[Los', G. P.]".

#7710: **Fitzpatrick, Ben, Jr.**

This article was misclassified as ALGEBRAIC TOPOLOGY. It should have been included in the section on GENERAL TOPOLOGY between reviews #7670 and #7671.

#7995: **Rabinowitz, Philip; Richter, Nira**

After the name of the second author add "[Richter-Dyn, Nira]".

#7996: **Rabinowitz, Philip; Richter, Nira**

After the name of the second author add "[Richter-Dyn, Nira]".

#9061: **Rao, Prakasa**

After the name of the author add "[Prakasa Rao, B. L. S.]".

# TRANSLITERATION OF CYRILLIC

Russian Letter Cap. Ital.	Mathematical Reviews; Zentralblatt für Mathematik	Bulletin Signalétique	Applied Mechanics Reviews	Science Abstracts	U.S. Library of Congress	Amer. Slavic & E. European Review	Journal of Symbolic Logic
А а	a	a	a	a	a	a	a
Б б	b	b	b	b	b	b	b
В в	v	v	v	v	v	v	v
Г г	g	g	g	g	g	g	g
Д д	d	d	d	d	d	d	d
Е е	e	e	e	e	e	e	e
Ё ё	e	ë	e	ë	ë	ë	ë
Ж ж	zh	zh	zh	zh	zh	zh	zh
З з	z	z	z	z	z	z	z
И и	i	i	i	i	i	i	i
Й й	i	j	i	i	i	j	j
К к	k	k	k	k	k	k	k
Л л	l	l	l	l	l	l	l
М м	m	m	m	m	m	m	m
Н н	n	n	n	n	n	n	n
О о	o	o	o	o	o	o	o
П п	p	p	p	p	p	p	p
Р р	r	r	r	r	r	r	r
С с	s	s	s	s	s	s	s
Т т	t	t	t	t	t	t	t
У у	u	u	u	u	u	u	u
Ф ф	f	f	f	f	f	f	f
Х х	h	kh	kh	kh	kh	kh	h
Ц ц	c	c	ts	ts	ts	c	c
Ч ч	ch	ch	ch	ch	ch	ch	ch
Ш ш	sh	sh	sh	sh	sh	sh	sh
Щ щ	sch	sch	sch	sch	sch	sch	sch
Ъ ъ	'						
Ы ы	y	y	y	y	y	y	y
Ь ь	'						
Э э	e	e	e	e	e	e	e
Ю ю	ju	ju	yu	yu	ju	ju	ju
Я я	ja	ja	ya	ya	ja	ja	ja

Other Mathematical Reviews conventions are as follows:

- The Ukrainian І, і are transliterated I, i, respectively.
- The Ukrainian І, і are reproduced without change.
- The Ukrainian Є, є are transliterated E, e.
- The Serbian Ђ, ђ are transliterated Đ, đ, respectively.
- The Serbian Ћ, ћ are transliterated Ć, ć; the Serbian Ў, ў are transliterated Dł, dł.





# SUBJECT INDEX

This index is arranged in accordance with the AMS (MOS) Subject Classification Scheme (1970), printed in full in the index issue to Vol. 39 of Mathematical Reviews, except that the subject classification scheme printed on pp. 1941-1948 above is used for Sections 70 through 86. Only those headings under which there are entries are reproduced below.

References are to review numbers; an Errata Section may be found on pp. 1974-1978 above. Russian authors are listed under the transliteration spelling of Russian used by Mathematical Reviews (see table on p. 1979). Surnames consisting of more than one part (e.g., von Humboldt, de Branges, etc.) are listed under the first capital letter.

Each review is listed under each of the classification numbers that have been assigned to it; secondary classifications are indicated by the review number's being in parentheses. Each review is also listed under each author; only one author is given in each entry but the fact of multiple authorship is indicated by *et al.* following the name of the author listed. The names of persons associated with a reviewed item in a capacity other than that of author (e.g., editor, translator, subject of a biography, etc.) are given in parentheses. Items without indicated authors are listed alphabetically, in each section, following the items with authors. An asterisk (\*) preceding a review number indicates that the item in question is a book.

## 00-XX GENERAL

### -00 Difficult to classify at the second level

Maurer, Julius Gy. 1711

### A05 General mathematics

Arnaudès, Jean-Marie; et al. *4927	(Monzingo, M. G.)	1
(Boas, R. P., Jr.)	(Reed, K. W., Jr.)	1
(Gemignani, M.)	(Reich, S.)	1
(Hardman, M. R.)	(Roeling, L. G.)	1
(Hildebrand, S. K.)	(Seelbach, E. R.)	1
(Jordan, J. H.)	(Thompson, R. L.)	1
Lelong-Ferrand, Jacqueline;	(Watkins, F. E.)	1
et al. *4927	(Wilansky, A.)	1
(Milnes, E. W.)	Wollan, G. H.	1

### A10 Collections of papers: Proceedings of conferences of general interest, translation volumes, etc. [See also Q1A75.]

(Ljapunov, A. A.)	*4928	Mathematics: Periodical
(Lupanov, O. B.)	*4928	collection of translations
Actes de la Société helvétique		of foreign articles *2, *3
des sciences naturelles	*5	Mechanics: Periodical
Algebraic colloquium	*1712	collection of translations
All-Union Algebraic Collo-		of foreign articles *4
quium. Abstracts of reports		Translations *2-*4, *4928
and papers	*1712	Verhandlungen der
Atti della Società elvetica		Schweizerischen Natur-
di scienze naturali	*5	forschenden Gesellschaft
Cybernetics collection	*4928	

### A25 Methodology and philosophy of mathematics

(Bar-Hillel, Y.)	7	Natucci, Alpinolo	8488
(Berka, K.)	7	Phillips, John H.	8489
Hesse, Mary	6	(Poirier, R.)	7
(Janic, Radovan R.)	*6553, *6554	(Stoichita, R.)	7
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## 099 None of the above, but in this section

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## J05 Boolean algebras, lattices, topologies

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Birjukova, L. A.; et al.	39	Daigneault, Aubert	8512



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## J10 Algebra of relations

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Lucas, Th.	1740		

## J99 None of the above, but in this section

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## K05 Consistency and independence results

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## K15 Axiomatics

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	1750, 6612, 6613, 6618	Mostowski, Andrzej	*3197
Grigorieff, Serge	6614	Nakano, Hidegoro	3193
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## K20 Axiom of choice and equivalent propositions (Zorn's Lemma, etc.) [See also 04A25.]

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Felgner, Ulrich	1752	Thomas, B. V. S.; et al.	3195
Franklin, S. P.; et al.	3195	Wiśniewski, K.	3198

## K25 Continuum hypothesis, generalized continuum hypothesis [See also 04A30.]

Alas, Ofelia Teresa	4964
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## K30 Descriptive set theory; Borel classifications, Suslin schemes, etc. [See also 04A15, 28A05, 54H05.]

Arhangel'skiĭ, A. V.	(9286)	Mansfield, Richard	(6629)
Čudnovskii, D. V.	4965	Rudin, Mary Ellen	2660

## K35 Large cardinals and ordinals (inaccessible, etc.)

Čudnovskii, G. V.	8521	Poss, Richard L.	6620
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Magidor, M.	4966	Solovay, Robert M.	55

## K99 None of the above, but in this section

Mijoule, Richard	5194	Prikry, Karel	(6631)
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## 04-XX SET THEORY

## -01 Elementary exposition (collegiate level)

(Janis, Radovan R.)	(*6554)	Introducing young people to scientific work	(*6554)
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## -02 Advanced exposition (research surveys, etc.)

Kreisel, G.	(3196)
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## A05 Relations, functions [See also 08A05.]

Robinson, D. F.	71	Vasilache, Sergiu	8530
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## A10 Transfinite numbers

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Dermenjian, Yves; et al.	2641	Knight, F. R. S.	1769
Detourbet, Gérard; et al.	2641	Silver, Jack H.	8517
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## A15 Descriptive set theory; Borel classifications, Suslin schemes, etc. [See also 02K30, 28A05, 54H05.]

Arhangel'skiĭ, A. V.	(9286)	Šedivá-Trnková, Věra	(3515, 3516)
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Erdős, P.; et al.	8531	Sauer, Norbert; et al.	(6633)
Hajnal, A.; et al.	8531	Schwarz, Stefan	5251

## A25 Axiom of choice and equivalent propositions (Zorn's Lemma, etc.) [See also 02K20.]

Alas, Ofelia Teresa	(4964)	Thomas, B. V. S.; et al.	(3195)
Franklin, S. P.; et al.	(3195)	Zaharova, E. Ju.	(3172)

## 05-XX COMBINATORICS [For finite fields, see 12Cxx.]

## -00 Difficult to classify at the second level

(Erdős, P.)	*4981	Proceedings of the Colloquium on Combinatorial Theory and its Applications held at Balatonfüred, August 24-29, 1969	*4981
(Rényi, A.)	*4981		
(Sós, Vera T.)	*4981		
Combinatorial theory and its applications	*4981		

## -02 Advanced exposition (research surveys, etc.)

Crapo, Henry H.; et al.	*74	Rota, Gian-Carlo; et al.	
Goldman, Jay H.; et al.	6632		*74, 6632

## 05Axx Classical combinatorial problems

## A05 Combinatorial choice problems; subsets, representatives

Abbott, H. L.; et al.	6633	Lindner, C. C.; et al.	(3618)
Belinski, M. L.	8532	Menon, V. V.	6638
Bouchet, André	4982	Mills, W. H.	8534
Brace, Alan; et al.	1774	Mohanty, S. G.	8535
Carlits, L.; et al.	1775	Ordman, E. T.	3214
Čobotarev, A. M.	6634	Rado, R.	6639
Coven, R. H.	6635	Reid, K. B., Jr.; et al.	4983
Daykin, D. E.; et al.	1774	Ronelle, D. P.; et al.	4983
Eifler, L. Q.; et al.	4983	Roth, Emil	3215
Erdős, P.; et al.	6636	Sauer, Norbert; et al.	6633
Graver, Jack E.	3213	Schönheim, J.; et al.	75
Gupta, Hansraj	6637	Schwarz, Stefan	5251
Hanson, D.; et al.	6633	Shalvet, Jacqueline	8536
Hersog, M.; et al.	75	Solov'ev, N. A.	6640
Katona, G.	76	Straley, T. H.; et al.	(3618)
Komlós, J.; et al.	6636	Subbarao, M. V.; et al.	1775
Lewis, D. C.	8533	Zafullah, Mohammad	77

## A10 Factorials, binomial coefficients, combinatorial functions

Alexanderson, G. L.; et al.	8538	Carlits, L.	1776, 3216
Best, M. H.	(2003)	Dumont, Dominique	5073

## A10 Continued

Emelichev, V. A.; et al.	6642	Krishna, H. V.	78
Gould, H. W.	6641	Mednik, Z. E.; et al.	79
Gould, H. W.; et al.	3217	Papp, F. J.	4984
Kaucky, J.; et al.	3217	Polya, G.; et al.	8538
Kononenko, A. M.; et al.	6642	Volynskii, E. I.; et al.	79

## A15 Combinatorial enumeration problems, generating functions

Abramson, Morton	1777	Boradani, A. F.; et al.	7325
Andrews, George E.	80	Katz, M.; et al.	8540
Bruckman, Paul S.	8539	Levine, L. P.; et al.	82
Carlitz, L.	1778, (3352)	Lichtman, S. J.; et al.	82
Church, C. A., Jr.	81	McQuistan, R. B.; et al.	82
Gerl, Peter	4985	Nederpelt, R. P.; et al.	6643
OShel, F.; et al.	6643	Schnitzer, F.; et al.	8540
Gupta, Manaraj	4986	Shannon, A. G.; et al.	7325
Hall, Marshall, Jr.	1779	(Širokova, S. A.)	1779
Hansel, G.	4987	Williamson, S. G.	8541
Harborth, Heiko	4988	Zolotarev, V. D.	83

## A17 Partitions [See also 10A45.]

Bender, Edward A.; et al.	8622	Milner, E. C.; et al.	(8585)
Erdős, P.; et al.	8531, (8585)	Simmons, G. J.	8537
Hajnal, A.; et al.	8531, (8585)	Steiner, G.	809
Knuth, Donald E.; et al.	8622		

## A20 Combinatorial inequalities

Hechler, Stephen E.	(6662)
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## A99 None of the above, but in this section

Bajić, Branko	471
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## 05Bxx Designs and configurations

## B05 Block designs [See also 62Kxx.]

Bhat, Vasanti N.	4989, 6644	Novák, Jiří	8543
Doyen, Jean	4990, 8542	O'Man, Michael E.	4995
Ganter, Bernhard	3218	Pelehaty, M. I.	1780
Graver, Jack E.	4991	Petrenjuk, A. Ja.	86, 1781
Hanani, Haim	6645	Rosa, Alexander	87, 3219, 4996
Heusé, Guy	84	Rudvalis, Arunas	3220
Mavron, Vassili C.	4992, 4993a-b	Rumov, B. T.	1782
Mendelsohn, N. S.	4994, (6969)	Širokova, S. A.	1783
Moda, Ryuzaburo	85		

## B10 Difference sets (number-theoretic, group-theoretic, etc.)

Camion, Paul; et al.	(6919)	Mann, H. B.; et al.	(6919)
Herzog, M.; et al.	(6782)	Schönheim, J.; et al.	(6782)

## B15 Orthogonal arrays, Latin squares

Brown, John Wesley	8544	Mullin, R. C.; et al.	8547
Hohler, Peter	8545	Stanton, R. G.; et al.	8547
Mendelsohn, N. S.	88	Wallis, W. D.	4997
Mills, W. H.	8546		

## B20 Matrices (incidence, Hadamard, etc.)

Brown, Ezra; et al.	(8579)	Sluckaja, T. L.	8550
Good, I. J.	3221	Solov'ev, N. A.	8549
Johnson, Larry S.; et al.	(282)	Stockmeyer, Paul K.; et al.	4998
Komlóš, J.; et al.	8548	Sulyok, M.; et al.	8548
Manvel, Bennet; et al.	4998	Tucker, Alan	4999
Pullman, M. J.	6646	Turyn, Richard J.	8551
Reid, K. B.; et al.	(8579)	Varineau, Verne J.; et al.	(282)
Ryser, H. J.	3224	Wallis, Jennifer	89
Saigal, Ramesh	3236	Wallis, W. D.	5000, 5001

## B25 Finite geometries

Beltrametti, E. G.	6349	Payne, Stanley E.	(7586)
Bonnice, W.; et al.	1784	Picasso, E.	(9244)
Denniston, Ralph Hugh Francis	1785	Quattrocchi, Pasquale	(2565)
Ghosh, Sakti P.	90	Robillard, Pierre	8552
Kelly, L. M.; et al.	1784	Rossi, Fabio	(4268)
Neporoznev, I. P.	(2564)	White, Neil L.	6647

## B30 Other designs, configurations

Beljavskaja, G. B.; et al.	(6725)	Horton, J. D.; et al.	6649, 6650
Bojanov, T. P.; et al.	8553	Millin, R. C.; et al.	6649
Bridges, W. G.	6648	Scheid, Harald	208
Čeban, A. M.; et al.	(6725)	Sendov, B. H.; et al.	8553
Fiala, František	207	Spence, Edward	8554
Fulkerson, D. R.	3222	Stanton, R. G.; et al.	
Giovagnoli, Alessandra	3223		6649, 6650
Harborth, Heiko	5002	Storer, T.	91

## B35 Matroids, geometric lattices

Amson, J. C.	(3449)	Duchamp, Alain	5004
Brualdi, Richard A.	1786, 5003	Edmonds, Jack	(6444)
Bruno, John; et al.	92	Weinberg, Louis; et al.	92

## B40 Packing and covering [See also 10E30, 52A45.]

Aigner, M.	3225
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## B45 Tessellation and tiling problems

Robinson, Raphael M.	6626
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## B99 None of the above, but in this section

Sinha, T. N.	6783
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## 05Cxx Graph theory (For applications of graphs, see 94A20.)

## C05 Trees

Bakhtoui, Abdelmajid; et al.		Ostrand, Phillip A.; et al.	6673
	3241	Pávo, I.	3240
Gyárfás, A.; et al.	(7602)	Picard, Claude-François; et al.	3241
Harary, Frank; et al.	6673	Poupard, Y.	3242
Klerner, David A.	1773	Robinson, D. F.	3243
Lehel, J.; et al.	(7602)	Schvasser, M. A.	105
Nešetřil, Ladislav	6674		

## C10 Topological graph theory, embedding [See also 55A15, 55A25.]

Chein, M.	5018	Ringelsen, B. D.; et al.	8571
Fulkerson, D. R.; et al.	5019	Saaty, Thomas L.	107
Hamada, Takashi; et al.	5020	Shapley, L. S.; et al.	5019
Imrich, Wilfried; et al.		Stewart, R. M.; et al.	8571
	106, 6675	Stockil, E.; et al.	106, 6675
Jacques, A.	6676	White, Arthur T.; et al.	
Lick, Don H.; et al.	5021		5021, 8571
Nonaka, Toshio; et al.	5020	Yoshimura, Izumi; et al.	5020
Northaus, E. A.; et al.	8571	Zamfirescu, Tudor	108

## C15 Chromatic theory of graphs and maps

Ballard, David	109	Laskar, Renu; et al.	6680
Bari, Ruth A.	3244	Lick, Don H.; et al.	114
Biggs, N. L.; et al.	3245	Liu, R.; et al.	6682
Bondy, J. A.	3246	Matschinski, Matthias	5025
Brown, Ezra; et al.	3247	Matula, D. W.	6681
Chvátal, Václav; et al.	110	Mitchem, John	115
Crao, H. H.	8572	Myers, B. N.; et al.	6682
Cvetković, Dragoš M.; et al.	6679	Narasimha, M. N.	8574
Damerell, R. M.; et al.	3245	Rosa, Alexander	(87)
Dewdney, A. K.	5022	Saaty, Thomas L.	5026
Donec, G. A.	6677, 6678	Sands, D. A.; et al.	3245
Erdős, P.; et al.	8573	Shes, S. C.	6683
Evdokimov, A. A.; et al.	111	Sobczyk, Andrew; et al.	5027
Gettys, James O., Jr.; et al.		Spencer, J. H.; et al.	112, 8573
	5027	Taylor, Walter	6684, (8598)
Glagolev, V. V.; et al.	111	Toft, Rjarne	5028
Graham, R. L.; et al.	112	Tomescu, Ioan	6685
Harary, Frank; et al.	110, 5023	Varvak, L. P.	5029
Hare, William; et al.	6680	de Werra, D.	3248
Jakobsen, Ivan Taftberg	45024	White, Arthur T.; et al.	
Johnson, Lee; et al.	3247		113, 114
Kraus, Laslo L.; et al.	6679	Whitehead, Earl Glen, Jr.	6686
Kronk, Hudson, V.; et al.	113		

## C20 Directed graphs (digraphs)

Bridges, W. G.	8575	Chen, Wei-kai	5016
Brown, Ezra; et al.	8579	Dörfler, Willibald	8578
Brown, W. G.; et al.	8576	Even, S.; et al.	1800
Cavaliere D'Oro, Luigi	8577	Fried, E.	6688
Chaty, Guy	6687	Graham, R. L.; et al.	1798

## C20 Continued

Grünbaum, Branko	116	Nemirovskiy, A. M.	1799
Harary, Frank; et al.	3249, 8576	Palmer, Edgar M.	1803
Ismailov, B. M.	3250	Phuoli, A.; et al.	1800
Jung, H. A.	6889	Pohl, Ira	3252
Karp, R. M.	3251	Ramachandra Rao, A.; et al.	3253
King, Clarence; et al.	3249	Rao, B. B.; et al.	3253
Krivka, P.	117	Read, Ronald C.; et al.	3249
Lempel, A.; et al.	1800	Reid, K. B.; et al.	8579
Liskovec, V. A.	1802	Ringeisen, Richard D.	5030
Mendelsohn, W. S.	6590	Spencer, J. H.; et al.	1798
Movshovitz, Abbe; et al.	3249	Spencer, Joel H.	8580
		Znám, Stefan	1801

## C25 Graphs and groups

Berggren, J. L.	118	Palmer, E. M.; et al.	119
Chein, M.	3254	Piff, M. J.; et al.	6693
Daykov, B. G.	6691	Semetkov, L. A.; et al.	6697
Dörfler, W.; et al.	6692	Shee, S. C.	5031, 6695
Harary, F.; et al.	119, 6693	Shee, S. C.; et al.	6696
Harary, Frank	5032	Sheehan, J.	8581
Imrich, W.; et al.	6692	Teh, H. H.; et al.	6696
Klin, M. H.	6694	Tits, Jacques	8582
Kopylova, A. H.	120	Vedernikov, V. A.; et al.	6697
Monahov, V. S.; et al.	6697	Welsh, D. J. A.; et al.	6693

## C30 Enumeration of graphs and maps

Cori, Robert; et al.	6698	Parthasarathy, K. R.; et al.	3255
Foata, Dominique	8583	Richard, Jean; et al.	6698
Gibson, F. M.	8584	Schoenfeld, L.; et al.	6699
Harris, Bernard; et al.	6699	Sridharan, M. R.; et al.	3255
Jurcun, A. E.; et al.	6700	Tomescu, Ioan	121
Klarner, D. A.	8564	Zykov, A. A.	6701
Moros, V. M.; et al.	6700		

## C35 Paths and extremal problems

Bollobás, Béla	1788	Ilkija, I. G.; et al.	1791
Entringer, R. C.; et al.	8559	Mader, W.	1794
Erdős, P.; et al.	1790	Simonyits, M.; et al.	1790
Fraenkel, A. S.	3230	Tolmacheva, A. Ju.; et al.	1791
Princovic, G. F.; et al.	1791	Walther, H.	8570
Harner, C. C.; et al.	8559		

## C99 None of the above, but in this section

Althuler, Amos	6651	Knodel, Walter	5009
Bang, C. M.	5005	Kucera, L.; et al.	3227
Baranovicová, Zdena	3226	Lee, Richard C. T.; et al.	3237
Baron, G.	1787	Lick, Don R.	97
Bean, D. W. T.	6652	Lick, Don R.; et al.	93
Berge, C.	6653	Lichtenbaum, L. M.	6663
Bosch, F. T.; et al.	5006	Little, Charles H. C.	6664
Bosák, Jura	1789	Lučić, Radomir P.; et al.	8557
Chartrand, Gary; et al.	93	Mader, W.	98, 1793, 6665
Chvátal, V.	3228	Maistrova, T. L.	5010
Chvátal, V.; et al.	3227, 6654	Markosjan, A. G.	99
Cisima, J.	8555	Morávek, Jaroslav; et al.	3232
Cvetković, Dragos M.	8556	Movshovits, Abbe	5011
Cvetković, Dragos M.; et al.	8557	Nash-Williams, C. St. J. A.	8565
Čoković, Dragomir Z.	3229	Nešetřil, J.; et al.	3227
Dorninger, Dietmar	8558	Owens, A. B.	1795
Erdős, P.	6655, 6656	Palásti, I.	6666
Erdős, P.; et al.	6654, 8560	Payan, Charles; et al.	3234
Fisher, J.; et al.	5007	Plesník, Ján; et al.	95
Frank, Howard; et al.	3231	Quaife, Howard J.	8566
Frucht, Ivan T.; et al.	3231, 5006	Rajappan, K. P.; et al.	100
Gan, H. W.; et al.	5014	Ramachandra Rao, A.	1796
Gibson, F. M.	94	Rosický, Jiří	3235
Glivjak, Ferdinand; et al.	95	Sabidussi, Gert	101, 1797
Gordon, M.	6657	Sauer, Norbert	8567
Graham, R. L.; et al.	5007	Silbes Pereira, J. M. S.	8568
Greenwell, D. L.; et al.	6658	Simon, Richard; et al.	3237
Guay, M. D.	96	Šisov, V. S.; et al.	6667
Guidotti, Laura	6659	Soltan, P. S.	102
Guy, R. K.	6660	Sós, Vera T.; et al.	8560
Hajnal, A.; et al.	6661	Spencer, Joel	6668
Hakimi, S. L.	5008	Steen, J. P.	5017
Harary, F.	8561	Stewart, B. M.; et al.	5012
Harary, F.; et al.	5007	Stone, A. H.; et al.	100
Havel, Ivan; et al.	3232	Surányi, L.	6669
Hechler, Stephen H.	6662	Szemerédi, E.	6670
Hell, P.; et al.	3227	Szemerédi, E.; et al.	6661
Heminger, Robert L.	3233, 8562	Takenaka, Yoshiko	5013
Heminger, Robert L.; et al.	6658	Teh, H. N.	6671, 6672, 8569
Herscov, Fritz; et al.	5012	Teh, H. N.; et al.	5014
Ho Ba Thuan; et al.	6667	Tomescu, Ioan	103
Imrich, Wilfried	1792	Tutte, W. T.	104
Jaeger, François; et al.	3234	Wallis, W. D.	3238
(Janák, Radovan R.)	(*6554)	Weichsel, Paul M.	3239
Kainen, Paul C.	8563	Wright, E. M.	5015
Kaugars, Agnis; et al.	93		

Introducing young people to scientific work (\*6554)

## 06-XX ORDER, LATTICES, ORDERED ALGEBRAIC STRUCTURES

-04 Explicit machine computation and programs (not the theory of computation or programming)

Hwang, F. K.; et al. (6146) Lin, Shen; et al. (6146)

## A05 Total order

Erdős, P.; et al.	8585	Rotman, B.	6702
Hajnal, A.; et al.	8585	Spencer, Joel H.	1805
Milner, E. C.; et al.	8585	(Vasenin, Ju. M.)	1804
Pinus, A. G. 1804, (3205), 3256			

## A10 Partial order

Aigner, Martin; et al.	122	Martinez, Jorge	1806
Arakeljan, A. A.	5033	Marushima, Hiroshi	8586
Edelberg, M.; et al.	5034	Okamoto, Sigeru	(9314)
Feinberg, V. Z.	3257	Ono, Shunsō	6703
Isbell, John R.	3258	Prins, Geert; et al.	122
Kleitman, D.; et al.	5034	Tucker, Lloyd D.	1807
Lubell, D.; et al.	5034		

## A15 Galois correspondences, closure operators

Schützenberger, M. P.	8587	Zybina, L. D.	6705
Zadeh, L. A.	6704		

## A20 Lattices, semi-lattices, generalizations

Bentley, H. L.; et al.	3260	Lau, August Yiu-Wa	1808
Boulaye, Guy	3259	Lediasv, J. P.; et al.	124
Burris, Stanley	(144)	Malliah, Chintayamma	125
Dražkovićová, H.	6706	Pierce, R. S.	3460
Evceev, A. E.	5035	Rodabaugh, D. J.	3263
Higgs, Denis	123	Schmidt, Jürgen	6708
Hsu, In-ching; et al.	3260	Sichler, J.	126
Johnson, E. W.; et al.	124	Skornjakov, L. A.	45036
Johnson, Johnny A.	3261	Steinfeld, O.	3264
Johnson, Johnny A.; et al.	124	Thron, W. J.; et al.	5942
Koh, Khee-meng	6707	Zidani, J.	6709
Larson, Roland E.; et al.	5942		

## A23 Complete lattices

Schnare, Paul S.	5943	Sichler, J.	(5058)
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## A25 Complemented lattices, generalizations

Trehel, Michel	3265		
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A30 Modular lattices, continuous geometries, generalizations  
[See also 16A30.]

Aubert, K. E.	3266	Mathiak, Karl	(9245)
Bruns, Günter; et al.	3267	Piziak, R.	5038
Foulis, D. J.; et al.	8588	Randall, C. H.; et al.	8588
Iqbalunnisa	1809	Sobocifski, Bolesław	8589
Janovits, Melvin F.	127	Stanley, Richard P.	5037
Kalmbach, Gudrun; et al.	3267		

## A35 Distributive lattices, generalizations

Balbes, Raymond	128	Kolibiari, M.	3262
Fiala, Frantisek	3268	Quackenbush, R.; et al.	5041
Fofanova, T. S.	1810	Rabinovic, M. G.	6710
Hecht, T.; et al.	5039	Smith, Dorothy P.	129
Kalsan, J. A.	5040	Speed, T. P.	4371
Ketrinák, Tibor; et al.	5039	Tamura, Saburo	8591
Kehayopoulos, Niovi	8590	Wolk, B.; et al.	5041

## A40 Boolean algebras and rings

Abian, Alexander	5042, 6711	Namba, Kanji	8593
Andon, P. I.	130	Padmanabhan, R.; et al.	8592
Bernas, S. J.	1811	Prikry, Karel	132
Fofanova, T. S.	5043	Sawicka, H.	3270
Gadiev, M. M.	3269	Sobocifski, Bolesław	(6712a-c)
Gitting, Rainer	131	Zelmer, Violette	5044
Korney, Ju. N.	(9809)	Zolotarev, V. D.	83
Mendelsohn, W. S.; et al.	8592		



## A45 Order topologies [See also 54F05.]

Adnadefic, D.	133	Kek, H.	(9295)
Alb, R. A.	1812	Todorov, K. E.	5045

## A50 Ordered semigroups, other generalizations of groups

Elyth, T. B.; et al.	3271	Fondulček, Bedřich	3273
Dubreil-Jacotin, M. L.	134	Tamura, Takayuki	6715
Hardy, W. C.; et al.	3271	Todorov, K. E.	6716
Hartman, Phillip A.	5046	T'rkalanov, Kr.	5047
Kuroki, Nobuaki	135, 6713	T'rkalanov, Kr.; et al.	5048
Mamikonjan, S. G.	136	Voss, Klaus	5049
Merlier, Thérèse	3272, 6714	Želeva, St.; et al.	5048
Murata, Kentaro	3276, 3277	Zybina, L. D.	6717
O'Carroll, L.	137		

## A55 Ordered groups

Ault, J. C.	3274	Martinez, Jorge	5053, 5054
Bleier, Roger D.	5050	McAlister, D. B.	8594
Chamless, Donald A.	5051	Radnev, P.	6720
Glass, A. M. W.	5052	Reilly, M. R.	3278
Jakubik, Ján	4718	Šimbreva, E. P.	3279
Kibriya, K. G.	6719	Šmarda, B.	138
McCleary, Stephen H.	3275	Verna, Daya-Rand	139

## A60 Ordered abelian groups

Hansen, Rodney T.	8595	Miller, J. B.; et al.	6721
Loy, R. J.; et al.	6721	Minassian, Donald P.	140, 3280

## A65 Ordered linear spaces [See also 46A40.]

Gešler, V. A.; et al.	5713	Veksler, A. I.; et al.	5713
Ivanova, G. Ja.	7439		

## A70 Ordered rings, algebras, modules [For ordered fields, see 10M15, 12J15.]

Evans, Trevor	(417)	Radnev, P.	3281
Isbell, J. R.	5055	Spoerel, D.	3282
Lustig, M.	1815		

## A75 Other ordered algebraic structures

Andrunakievič, V. A.; et al.	5056	Rjabuhin, Ju. M.; et al.	5056
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## 08-XX GENERAL MATHEMATICAL SYSTEMS

## A05 Structure of general algebras and relational systems [For topological representation, see 54M10.]

Burris, S.; et al.	5257	Sichler, J.	5058
Nelson, Evelyn; et al.	5257	Slin'ko, A. M.	143
Omarov, A. I.	42	Soublin, Jean-Pierre	(436-438)
Platt, Craig	(5196)		

## A10 Free algebras, sums, products, limits, colimits

Artamonov, V. A.	3286	Macchi, Piero	150
Bertin, E. M. J.	6722	Mendelsohn, Eric	5057
Kuroš, A. G.	149	Trohimenko, V. S.	1814

## A15 Varieties of algebras and generalizations

Akataev, A. A.	3285, 5059	Kannan, V.	142
Blanc, Georges	3283	Pultr, A.; et al.	6724
Burgin, M. S.	6726	Šedivá-Trnková, Věra; et al.	6724
Gluhov, M. M.	146, 147		

## A20 Axiomatic model classes

Burris, Stanley	144	Mendelsohn, N. S.	(6690)
Day, Alan	145	Purdes, I.	152
Hall, Japheth, Jr.	141	Sevrin, L. N.; et al.	153
Martynov, L. M.; et al.	153		

## A25 Universal algebra

Bayramov, R. A.	8597	Baumslag, Gilbert; et al.	351
Baranović, T. M.	6723	Beljavskaia, G. B.; et al.	6725
Baumslag, Benjamin; et al.	351	Burgin, M. S.	1815

Burris, S.	3287	Peake, E. James; et al.	8699
Čeban, A. M.; et al.	6725	Peters, Calen R.; et al.	8699
Day, Alan	3286	Pixley, Alden P.	1820, 5065
Dicht'jar', M. B.	6727	Pixley, Alden P.; et al.	5060
Foster, Alfred L.; et al.	5060	Platt, Craig; et al.	148
Georgescu, George; et al.	6728	Phonka, J.	3294, 5066
Could, Matthew; et al.	148	Phonka, J.; et al.	3289, 3290
Grätzer, G.; et al.	3289, 3290, 6729	Quackenbush, Robert W.	3295
Henno, J.	6730	Radnev, P.	6720
Ilu, Teh-kai	3291, 5061	Rosenberg, Ivo	1821, 6732
Isakander, Avni A.	1816, 5062	Roubaud, Jacques	6733
(Janić, Radovan N.)	(46553)	Sangalli, Arturo A. L.	3296
Jetek, Jaroslav	1817	Seidáček, Ladislav	3297
Karánek, Jiří	1818	Sebanina, A.; et al.	3289
Kuroš, A. G.	5063	Sioson, F. M.; et al.	3292
Lakser, M.; et al.	6729	Slipenko, A. K.	6734
Liber, S. A.	6731	Smirnov, D. M.	5067
Magari, Roberto	1819a-b	Smith, D. B.	3298
Monk, J. D.; et al.	3292	Sobociński, Bolesław	(6712a-c)
Novotný, Miroslav	3293	Taylor, Walter	8598
Pasini, Antonio	151, 5064	Vraciu, Constantin; et al.	6728
		Introducing young people to scientific work	(46553)

10-XX NUMBER THEORY (Excluding 10Axx and 10Mxx, this classification scheme does not distinguish work in the rational number fields from that in other algebraic number fields.)

## -02 Advanced exposition (research surveys, etc.)

(Horváth, John)	4585	Several Complex Variables.	
Proc. Internat. Conf. on		II. Maryland 1970	4585
Several Complex Variables,			
Univ. of Maryland	4585		

## -03 Historical

(Bunjakovskij, V. Ja.)	8493	(Mordell, L. J.)	5068
Mahler, K.	5068	Morozova, N. N.	8493

## -04 Explicit machine computation and programs (not the theory of computation or programming)

Poole, George D.	5070
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10Axx Elementary number theory (For analogues in number fields, see 12A05.)

## A05 Multiplicative structure of the integers (GCD, etc.)

Brown, J. L., Jr.; et al.	155	Herzog, M.; et al.	6782
Duncan, R. L.; et al.	155	Schönheim, J.; et al.	6782

## A10 Congruences, primitive roots

Buzs, M. K.	3303b	Posnov, N. N.; et al.	3303d-e
Buzs, M. K.; et al.	3303d-e	Shanks, Daniel	6747
Choi, S. L. G.	6744	Sinha, T. N.	6748
Hansen, Rodney T.	6746	Stephens, N. M.	6738
Kravcov, V. K.	3303c	Williams, Kenneth S.	159
Kravcov, V. K.; et al.	3303d-e	Wright, E. M.	3304
McCarthy, P. J.	1823		

## A15 Power residues, reciprocity

Früberg, Carl-Erik	5069	Hudson, Richard H.	158
Gupta, Hansraj	6736	Posnov, N. N.	3303a

## A20 Number theoretic functions, related numbers; inversion formulas

Adler, Irving	160	Krishna, N. V.	162
Alexander, Ralph	161	Lal, M.; et al.	6737
Brady, Wray G.	7114	Mordell, L. J.	6750
Chavla, L. M.	1824	Murthy, S. R.	164
Forbes, A.; et al.	6737	Williams, M. C.	1827
Gupta, Hansraj	6745		

## A25 Elementary prime number theory, factorization

Friedlander, John	1868	McDaniel, Wayne L.	5074
Hagis, Peter, Jr.	6740, 8599	McDaniel, Wayne L.; et al.	1882
Hagis, Peter, Jr.; et al.	1882	Pignataro, Salvatore	5072

## A25 Continued

Schneheim, J.	1869	Tee, Garry J.	8601
Steckin, S. B.	165	Tuckerman, Bryant	166

A30 Algorithms and expansions, digital properties  
[Approximation results in 10F20; metric results in 10K10.]

Anderson, Ian	6751	Oppenheim, Alexander	8603
Bradley, Gordon E.	3313	Peterson, Brian; et al.	8602
Hoggatt, V. E., Jr.; et al.	8602	Pollard, J. M.	3314

## A35 Recurrence sequences

Brom, T. C.; et al.	3306	Zeitlin, David	3312
Weiss, Max L.; et al.	3306		

## A40 Special members, sequences and polynomials (e.g. Bernoulli)

Beverage, David G.	3305	Higgins, James	1825
Booth, H. S.	2361	Hoggatt, Verner E., Jr.	1826
Brady, Wray G.	154	Howard, F. T.	8600
Brousseau, Brother Alfred	6735	Kubota, K. K.	6742
Brown, J. L., Jr.	3300	La Barbera, Sal	3310
Burr, S. A.	3307	Levan, M. O.	163
Carlitz, L.	3308, 6749	Raghavacharyulu, I. V. V.; et al.	7115
Dumont, Dominique	5073	Stanley, T. E.	3311
Heuer, G. A.	6741	Tekumalla, A. R.; et al.	7115

## A45 Partitions

Abbott, H. L.; et al.	1866	(Janic, Radovan R.)	(46553)
Dressler, Robert E.	1828	Konecny, Václav	5075
Gupta, Hansraj	204, 4986, 6739	Introducing young people to scientific work	(46553)
Hanson, D.; et al.	1866		
Hudson, Carolyn Breuer	3309		

## A99 None of the above, but in this section

Bauer, Jean-Pierre	3299	Radnev, P.	6743
Carlson, John R.	156	Reich, Simeon	5071
Choi, S. L. G.	1867	Silvanov, F. S.	3301, 3302
Legendre, Robert	157		

10Bxx Diophantine equations (For all papers involving  
algebraic-geometric methods, see 14Gxx.)

## B05 Linear, quadratic and bilinear equations

Belkner, Horst	6756	Thouvenot, S.	3319
Cohen, Edward L.	169		

## B10 Cubic and quartic equations

Finkelstein, Raphael; et al.	1830	London, H.; et al.	1830
Hafrullin, G. T.	6757	Nagell, Trygve	3318
Ljunggren, W.	171	Novák, Frantisek	170

## B15 Higher degree equations

Christy, Daniel	8604	Petkov, Milko; et al.	6754
Gandhi, J. M.	5077	Rajkov, Rajko; et al.	6754
Hellegouarch, Yves	3317	Sabirov, M. S.	5078

## B25 Nonpolynomial equations

Revus, Germaine	1829		
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## B35 Representations problems [See also 10J10.]

Bhaskaran, M.	3315	Vephvadse, T. V.	227
Uchiyama, Saburō	8621		

## B40 p-adic and power series fields

Pleasants, P. A. B.	168		
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## B45 Diophantine inequalities

Pitman, Jane	3331, 6753		
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## B99 None of the above, but in this section

Butter, D. A.	3316	Fel'dman, N. I.	167
Chowla, S.; et al.	5076	Hasse, H.; et al.	5076
Ehrhart, Eugène	6752	Tersi, D. G.	6755

## 10Cxx Forms

## C05 Quadratic and hermitian forms [See also 10E25.]

Arason, Jón Kristinn; et al.	3320	Rosenberg, Alex; et al.	
Asadulla, Syed	6758		1954, (5164)
Brown, Ezra	5080	Scharlau, Winfried	1834, 1835
Hunsucker, John L.	173	Scharlau, W.; et al.	1955
Knebusch, M.; et al. 1955, (5164)		Vephvadse, T. V.	175
Kogan, L. A.	174	Vinberg, E. B.	8605
Körner, Otto	1832	Ware, Roger; et al. 1954, (5164)	
Ljunggren, W.	3322	Watson, G. L.	176
Lomadze, G. A.	3321	Worley, R. T.	1836
Pfister, Albrecht; et al.	3320		

## C10 Higher degree forms

Avanesov, E. T.	6759	Shintani, Takuro	1837
Lomadze, G. A.	1833	Vehov, P. P.	5079

## C15 Analytic theory

Kaufman, R. M.	3346	Knebusch, Manfred	172
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## C99 None of the above, but in this section

Cohn, Harvey	(6899)		
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## 10Dxx Automorphic theory

## D05 Modular functions and groups

Bauhoff, E. F.	1838	Petersson, Hans	3324
Mirsalikhov, A.	6762	Rankin, R. A.	179
Moreno, Carlos Julio	8619	Shimura, Goro	1840
Ogg, A. F.	178	Yamauchi, Masatoshi	5081

## D10 Automorphic functions, one variable

Cassels, J. W. S.	177		
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## D15 Automorphic forms, one variable

Hiramatsu, Toyokazu	8606	Shalika, J. A.; et al.	181
Miyake, Toshitsune	180	Tanaka, Shun'ichi; et al.	181

## D20 Automorphic theory, several variables

Eichler, M.	1841	Steinle, B.	3323
Miyake, Toshitsune	8607		

## D25 Complex multiplication [See also 14K22.]

Shimura, Goro	5111		
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## D99 None of the above, but in this section

Karel, Martin L.	6760	Mirsalikhov, A.; et al.	6761
Kogan, L. A.; et al.	6761		

## 10Exx Geometry of numbers

## E05 Lattices and convex bodies [See also 10J25.]

Karanikolov, Hr.	3325	Wills, J. M.	(7618)
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## E10 Nonconvex bodies

Baranovskiy, E. P.	182		
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## E15 Products of linear forms

Davenport, H. 3327 Swinnerton-Dyer, H. P. F. 1844  
(Lewis, D. J.) 3327

## E25 Quadratic forms (reduction, extreme forms, etc.)

Davenport, H. 1842 Novák, Břetislav 1843  
(Lewis, D. J.) 1842

## E30 Lattice packing and covering [See also 05B40, 52A40.]

Yates, D. L. 3326

## 10Fxx Diophantine approximation [See also 10Kxx.]

## F10 Simultaneous approximation

Hamov, G. G. 5086

## F20 Continued fractions and generalizations [See also 10A30.]

Bernstein, Leon 3328 Domorjad, A. P. 3329  
Brignon, Pierre 183 Novák, Břetislav; et al. 184  
Cook, R. J. 6764 Paščenjak, F. O. 6765  
Diviš, Bohuslav; et al. 184

## F25 Approximation to algebraic numbers

Blankensby, P. E.; et al. 5082 Sprindžuk, V. G. 1845, 1846  
Hamov, G. G. 5085 Vulah, L. Ja. 1847  
Montgomery, H. L.; et al. 5082

## F30 Approximation by numbers from a fixed field

Mjakišev, V. P. 6763

## F35 Irrationality and transcendence

Bombieri, Enrico; et al. 5089 Morita, Yasuo 8610  
Galockin, A. I. 8608 Šmelev, A. A. 6766, 8611  
Grosswald, Emil 8609 Stark, H. M. 6767  
Lang, Serge; et al. 5089 Tijdeman, H. 3333  
Mahler, K. 5090

## F40 Distribution modulo one [See also 10K05.]

Baker, R. C. 6768 Rauzy, G. 186  
Helmsberg, Gilbert 5091 Šahov, Ju. N. 8612  
Kano, Takeshi 6769 Sen Gupta, Sachi Bhushan 187  
Marstrand, J. M. 185

## F45 Approximation in nonarchimedean valuations

Paris, Colette 224

## F99 None of the above, but in this section

Baron, Gerd; et al. 5088 Hall, Marshall, Jr. 5084  
Braune, Erhard; et al. 5088 Jones, A. J. 5087  
Coates, J. 3330 Wurmogomedov, M. S. 3332  
Cusick, T. W. 5083

## 10G05 Exponential sums, character sums

Mordell, L. J. 1853

## 10Hxx Multiplicative theory

## H05 Riemann zeta-function

Armitage, J. V. 216 Sato, Mikio; et al. (5140)  
Berndt, Bruce C. 6773 Shintani, Takuro; et al. (5140)  
Kisun'ko, A. G. (6822) Spira, Robert 5096, 6776  
Maloletkin, G. N. 1839

## H10 Other zeta-functions, L-functions [For local and global ground fields, see 12A70, 12A80, 12B30, 12B35; for algebraic-geometric methods, see 14G10.]

Cassels, J. W. S. 3335 Levinson, H. 3338  
Draxl, P. K. J. 193 Lovász, L. 197  
Elliot, P. D. T. A. 194 Matuljauskas, A. 1852  
Emersleben, Otto 195 Nageswara Rao, K. 5094  
Fogels, E. 3336 Norton, Karl K. 8614  
Golubeva, E. P. 8613 Stephens, P. J. 1854  
Karacuba, A. A. 196 Uchiyama, Saburō 3334  
Karanikolov, Hr. 6771 Wiertelak, K. 1855  
Lang, Serge 3337

## H15 Distribution of primes and of integers with specified multiplicative properties

Cadwell, J. H. 8615 Littlewood, J. E. 3343  
Hall, R. R. 3339, 3340 Ramachandra, K. 8616, 8617  
Huxley, M. N. 1856 Sitaramachandra Rao, R.; et al. 198  
Juskys, Z.; et al. 3342 Suryanarayana, D.; et al. 198  
Kasara, I. 3341  
Kubilius, J.; et al. 3342

## H20 Distribution in progressions and other sequences

Galambos, J. 6780 Warlimont, Richard 203  
Huxley, M. N. 6774

## H25 Asymptotic results on arithmetic functions

FaInleib, A. S.; et al. 1861 Lardon, René 190  
Galambos, J. 189 Moreno, Carlos Julio (8619)  
Il'jasov, I. I. 1858 Toleuov, Z.; et al. 1861  
Kerawala, S. M. 1850

## H30 Sieves

Burgess, D. A. 212, 1851 Kondakova, L. F. 1872  
Buschman, R. G. 213 Richert, H.-E. 1873  
Gallagher, P. X. 214 Wolke, D. 215  
Iwaniec, H. 5104

## H35 Distribution of residue classes (primitive roots, power residues, etc.)

Norton, Karl K. 5095

## H99 None of the above, but in this section

Ahmedova, G. T. 710 Froshan, J. H. 192  
Grosswald, E. 1849 Stepanov, S. A. 5097  
Jackson, T. H. 6770 Subbarao, M. V.; et al. 1860  
Krätzel, Ekkehard 5093 Suryanarayana, D.; et al. 1860  
Lavrík, A. F. 6775 Tuljaganova, M. I. 6772  
Novák, Břetislav 191

## 10Jxx Additive theory

## J05 Sums of squares

Cassels, J. W. S.; et al. 1863 Pfister, A.; et al. 1863  
Ellison, W. J.; et al. 1863 Thanigasalam, K. 1862  
Hookey, Christopher 3350

## J10 Applications of Hardy-Littlewood method [See also 10B35.]

Brückner, Helmut 6778 Skula, Ladislav 6777  
Cassou-Nogues, Pierrette 5092 Varbanec, P. D. 188  
Cohn, J. H. E. 3349 Vaughan, R. C. 3348  
Robba, Philippe 1848

## J20 Analytic work on partitions [See also 10A45.]

Andrews, George E. 5100, 6779 Knuth, Donald E.; et al. 8622  
Bender, Edward A.; et al. 8622 Wright, E. M. 8623

## J25 Lattice points in large regions

Dressler, Alexander; et al. 3347 Müller, Claus 3347

## J99 None of the above, but in this section

Brenner, J. L.; et al. 5099 de Pillis, J.; et al. 5099  
Maucilaire, Jean-Loup 1859



## 10Kxx Probabilistic theory; measure, dimension, etc.

## K05 Distribution modulo one

Gerl, Peter 7428 Stackelberg, Olaf P. 3351

## K10 Algorithms and expansions

Galambos, János 8624 Schweiger, Fritz 6781

## K15 Diophantine approximation

Baker, R. C. 2408

## K20 Arithmetic functions

Berndt, Bruce C. 199 Iamollov, D. 202  
 Buschman, R. G. 1857 Kubilius, J. 1864  
 Delange, Hubert 3344 Kudinov, A. F. 205  
 Freedman, Michael L. 8618 Schweiger, Fritz 1865  
 Galambos, János 200, 5101 Segal, S. L. 8620  
 Manuwanthachari, J. 201 Shapiro, Harold M. 3345

## K40 Nonarchimedean theory

Monna, A. F. 44101

## K99 None of the above, but in this section

Misevičius, G. 5102 Szemerédi, E. 8625  
 Porter, J. W. 5098

## 10Lxx Sequences of integers

## L05 Addition of sequences

Golsy, Marcel J. E. 6784 Nathanson, Melvyn B. 3355

## L10 Special sequences (density, etc.)

Beresin, M.; et al. 211 Lubell, David 210  
 Choi, S. L. G. 3353 Lubell, D.; et al. 211  
 Gloin, A. A.; et al. 3354 Šalát, Tibor 1870  
 Goldsmith, D. L.; et al. 3354 Shannon, A. G.; et al. 8626  
 Horadam, A. F.; et al. 8626 Wolke, Dieter 1871  
 Levine, E.; et al. 211

## L99 None of the above, but in this section

Carlitz, L. 3352 Každan, D. 5103

## 10Nxx Connections with logic

## N15 Nonstandard arithmetic [See also 02H25.]

Kosovskiy, N. K. 226

## 12-XX ALGEBRAIC NUMBER THEORY, FIELD THEORY AND POLYNOMIALS

## -02 Advanced exposition (research surveys, etc.)

(Horváth, John) \*585 Several Complex Variables.  
 Proc. Internat. Conf. on II. Maryland 1970 \*585  
 Several Complex Variables,  
 Univ. of Maryland \*585

## -04 Explicit machine computation and programs (not the theory of computation or programming)

Ellison, W. J.; et al. (3360) Stall, D. S. (3360)  
 Lunnon, W. F.; et al. (3360) Zimmer, Horst G. 5105  
 Pesek, J.; et al. (3360)

## 12Axx Algebraic number theory: global fields (For complex multiplication, see 10D25.)

## A05 Analogues in number fields of elementary number theory

Parry, Charles J. 3358

## A10 Characterizations of algebraic numbers and algebraic functions

Lavrik, A. F. 219

## A20 Polynomials (irreducibility, etc.)

Kantardžieva, Elena; et al. Ree, Rimhak 3362  
 5114, (8639) Schulze, Volker (8640)  
 Ōno, Shunzō 5113 Tokarev, Dimit'ri et al. 5116  
 Pirgov, Dimit'ri 5115 Uchiyama, Saburō 5117  
 Pirgov, Dimit'ri; et al. 5114, 5116, (8639)

## A25 Quadratic fields

Baker, Alan 8631 Halter-Koch, Franz 5106  
 Bebbe, Étienne 8632 Koch, Helmut 380  
 Bergum, Gerald E. 1874 Lunnon, W. F.; et al. 3360  
 Ellison, W. J.; et al. 3360 Pesek, J.; et al. 3360  
 Goldstein, Larry Joel 218, 3357, 8635 Plotkin, Neal 6788  
 Stall, D. S.; et al. 3360  
 Yamamoto, Yoshihiko 5107

## A30 Cubic and quartic fields

Honda, Taira 1877 Wada, Hideo 3361  
 Paris, Colette 6787

## A35 Abelian and metabelian extensions (including cyclotomic, Kummer, cyclic)

Bulenov, A. 1878 Fel'dman, M. I. 8634  
 Čudakov, N. G. 8634 Jones, A. J. (5087)  
 Ennola, Veikko 8633 Kenzibaev, S. 1876

## A40 Other number fields

Friedlander, John 8627 Iwata, Hiroshi 6786  
 Furuya, Hisako 217 Miyata, Yoshimasa 237  
 Gras, Georges 8628 Parry, Charles J. 3374  
 Ikeda, Masatoshi 236 Pitti, Christian 8629

## A45 Units and factorization

Peters, Meinhard 220 Takaku, Akira 222  
 Sprindžuk, V. G. 1831 Tasaka, Takashi 223

## A50 Class number, discriminant

Babaev, G. 3356 Sunley, Judith E. 221  
 Kaur, Gurram 1875

## A55 Galois theory

Joachim, Egon 1883 Novogrudskaja, A. N. 6794  
 Kurbatov, V. A. 6794 van Praag, Paul 234  
 Martinet, Jacques 8641 Soundararajan, T. 3372

## A60 Galois cohomology

Garland, Howard 6785

## A65 Class field theory

Furuta, Yoshiomi 6795 Madan, Manohar L. 5110  
 Halter-Koch, Franz 1879 Weinberger, P. J. 8630  
 Lang, Heinrich 8637

## A90 Arithmetic theory of algebraic function fields [See also 14-XX.]

Armitage, J. V. 225

## A99 None of the above, but in this section

Shanks, Daniel 6789

## 12Bxx Algebraic number theory: local and p-adic fields

## B05 Polynomials

Kantardžieva, Elena; et al. 8639 Schulze, Volker (8640)  
 Pirgov, Dimitar; et al. 8639

## B10 Ramification and extension theory

Bertrandias, Françoise; et al. 5108, 5109 Ferton, Marie-Josée 8642  
 Bertrandias, Jean-Paul; et al. 5109 Ferton, Marie-Josée; et al. 5108, 5109

## B15 Galois theory

Gillard, Roland 8636 (Safarevič, I. R.) \*233  
 Koch, Helmut \*233

## 12Cxx Finite fields and finite commutative rings

## C05 Polynomials

Agoy, Simon 3363 Owehenberger, G. 3364  
 Barsamov, R. R.; et al. (6510) Jung, Puanglada R. 3365  
 Cicchese, Marcello 228 Niederreiter, H. 230  
 Cohen, Stephen D. 229 Rédei, László \*3366  
 Garakov, G. A.; et al. (6510)

## C15 Arithmetic

Dodson, M. M. 1880

## C20 Cyclotomy

Diderrich, G. T.; et al. 6791 Rumsey, Howard, Jr.; et al. 8638  
 Mann, H. B.; et al. 6791 Ssekere, G. 209  
 McEliece, Robert J.; et al. 8638

## C30 Structure theory

Kopfermann, Klaus 6792

## 12Dxx Real and complex fields

## D05 Polynomials: factorization

Barnett, B. 231, 5147 Pirgov, D. T. 6793  
 Iwata, Hiroshi 6790 Rjaben'kiĭ, V. S. 1881  
 Kovacic, J. 1885 Willett, Michael 1882  
 MacCluer, C. R. 3359

## D10 Polynomials: Location of zeros [Algebraic theorems; for the analytic theory, see 26A76, 30A08.]

Fried, Michael 3368

## D99 None of the above, but in this section

Boyce, William M. 232

## 12Exx General field theory

## E05 Polynomials (irreducibility, etc.)

Cohn, J. H. E.; et al. 3367 Kleiman, H. 3370  
 Hall, R. R. 3369 Mordell, L. J.; et al. 3367

## E99 None of the above, but in this section

May, Warren (3560)

## 12Fxx Field extensions

## F05 Algebraic extensions

Bégueri, Lucile 235 Moore, Nadine 3403

## F10 Separable extensions, Galois theory

Cougnard, Jean 3371 Malyšev, V. A. (2804)  
 Jacobson, David 3373

## F20 Transcendental extensions

Gilmer, Robert 240 Vinograd, B.; et al. 241  
 Mordeeson, J. W.; et al. 241

## 12Hxx Differential and difference algebra

## H05 Differential algebra

Johnson, Joseph 3379

## 12Jxx Topological fields

## J10 Valued fields

Armbrust, Manfred 3375 Roquette, Peter 8643  
 Kraemer, Marc 238 Warner, Hoyt D. 3377  
 Langmann, Klaus 2207 Wong, Cécile M. 6796

## J15 Ordered fields

Massasa, Carla 5118

## J20 General valuation theory

Brown, Ron 1884 Warner, Hoyt D.; et al. 3376  
 Brown, Ron; et al. 3376

## J99 None of the above, but in this section

Mittas, Jean 239

## 12K05 Near-fields and other generalizations

Massola, Guerino 5112

## 12Lxx Connections with logic

## L15 Nonstandard arithmetic [See also 02H25.]

Macintyre, Angus (48)

## L99 None of the above, but in this section

Asenjo, F. G.; et al. 6611 van Praag, Paul; et al. 6607  
 Boffa, Maurice; et al. 6607 Roquette, Peter (8643)  
 Madison, E. W. 6624 Staples, John (6587)  
 McKeen, J. M.; et al. 6611

## 13-XX COMMUTATIVE RINGS AND ALGEBRAS (For finite commutative rings, see 12Cxx.)

## 13Axx General commutative ring theory

## A05 Divisibility

Fletcher, C. B. 1891

## A15 Ideals, prime ideals, valuations and generalizations

Aoyama, Kenroku	1890	Laplace, Miguel L.	8645
Brown, Ron; et al.	(3376)	Ledraev, J. P.; et al.	(124)
Gill, D. T.	1904	Levitz, Kathleen B.	3381
Gilmer, Robert	1892	McAdam, Stephen	3382
Heidema, J.	5120	Perticani, Fred I.	3386
Hersog, Jürgen; et al.	243	Picavet, C.	6800
Hochster, M.	1887	Prijatelj, Niko	244
Johnson, E. W.; et al.	(124)	Schwarz, Friedrich	8651
Johnson, Johnny A.; et al.	(124)	Smith, P. F.	(3452)
Kinugasa, Yasuo	1893	Valla, Giuseppe	6802
Krassner, Marc	257	Warner, Hoyt D.; et al.	(3376)
Kunz, E.; et al.	243		

## A99 None of the above, but in this section

Anno, E. I.	3384	Kirstein, E. H.	8657
Bouvier, Alain	6797	Nedraev, A. A.	247
Escassut, Alain	1886	Speed, T. P.; et al.	3387
Evans, M. W.; et al.	3387	Tricoire, Annette	8686
Hache, Jordane	3380	Tripathi, S. M.	6801

## 13Bxx Ring extensions and related topics

## B05 Galois theory

Braconnier, Jean 3399

## B10 Automorphisms and derivations

Brown, William C.; et al.	3388	Chung, I. Y.	5122
Castillon, Jean-Bernard	248	Huan, Wei-eihn; et al.	3388

## B20 Integral dependence; integral closure; integrally closed rings, related rings (Japanese, etc.)

Stagnaro, Esio (8653)

## B25 Polynomials over commutative rings

Cohen, Paul-Jean; et al.	5126	Hochster, M.	3394
Chabert, Jean-Luc; et al.	5126	Kubota, K. K.; et al.	6815
DeMeyer, Frank	3390	Rosenknap, I. Z.	(6889), (6890)
Eakin, Paul; et al.	6815		

## B99 None of the above, but in this section

Hart, Robert	6811	Radu, Nicolae	6812
Nagahara, Takasi; et al.		Wajnryb, Bronislaw; et al.	5123
	6813, 6814	Zaks, Abraham; et al.	5123
Nakajima, Atsushi; et al.			
	6813, 6814		

## 13Cxx Theory of modules and ideals

## C05 Structure, classification theorems

Albu, Toma	6805	Langmann, Klaus	3765
Bonnard, Genevieve	6806	Mauve, Reinhard	5121
Fried, E.	300	Nozenknap, I. Z.	6809, (6846)
Fuchs, L.	(5157)	Stratton, A. E.	1898
Harinath, K. S.	6869	Vasconcelos, Wolmer V.	246

## C10 Special types (projective, injective, free, flat, torsion, reflexive, etc.) [See also 18005.]

Albu, Toma; et al.	1894	Skutnasek, Constantine; et al.	1894
Arnold, David M.	1895	Paugam, Michel	1899
Cox, S. W., Jr.; et al.	1896	Perić, Veselin	245
Kleiner, G. B.	1897	Rush, David L.; et al.	1896
Krömer, Helmut	3383	Teplý, Mark L.	8647

## C99 None of the above, but in this section

de Barres, Constantine M.	4308	Roth, B.	2459
Eisenreich, Günther	6808	Sharp, Rodney Y.; et al.	8646
MacDonald, I. G.; et al.	8646	Suprunenko, D. A.	6829
Martinet, Jacques	(302)	Warfield, R. B., Jr.	(378)
Osborn, Howard	(9349)		

## 13Dxx Homological methods (For cohomology of rings and algebras, see 18H20.)

## D05 Homological dimension

Nichols, John C. 3391

## D10 Deformations and infinitesimal methods

Matsuoka, Tadayuki 250

## D15 Class group, Grothendieck group, K-theory [See also 18F25.]

Eisenbud, David; et al.	6807	Van der Kallen, Wilberd	252
Evans, E. Graham, Jr.; et al.	6807		

## D99 None of the above, but in this section

Bégueri, Lucile	8660	Kohn, Peter	5125
Brewer, J. W.; et al.	8648	Negård, Odd Guttorm; et al.	5124
Gulliksen, Tor Høltedahl; et al.	5124	Rutter, E. A.; et al.	8648
Hacque, Michel	8698	Schelter, William	8690
Jothilingam, P.	249	Stöhr, K. O.	251

## 13Exx Chain conditions

## E05 Noetherian rings

Chadeyras, Marcel	6803	Ohm, Jack; et al.	3385, 5156
Heinzer, William; et al.	3385, 5156	Sharp, R. Y.	3392

## E99 None of the above, but in this section

Ratliff, L. J., Jr. 6804

## 13Fxx Arithmetic rings

## F05 Dedekind and Prüfer rings and their generalizations

Lefranc, Christelle 43400

## F20 Polynomial rings [See also 18M05.]

Stückrad, Jürgen; et al. 8650 Vogel, Wolfgang; et al. 8650

## F99 None of the above, but in this section

Levitz, Kathleen B.; et al.	(6872)	Mott, Joe L.; et al.	(6872)
Miyashita, Yōichi	5127		

## 13G05 Integral domains

Brewer, J. W.	1903	Querré, Julien	8644
Leedham-Green, C. R.	1888	Sinha, I.; et al.	6798
Pirtle, Elbert M.	1889	Srivastava, J. B.; et al.	6798
Proper, R. E.	5119	Warner, Seth	6799

## 13Hxx Local rings and semilocal rings

## H05 Regular local rings

Poletti, Mario 1902



H10 *Special types (Macaulay, Gorenstein, etc.)*

Matlis, Eben	255	Seydi, Hamet	3398, 3399, 6819
McDonald, B. R.	(3438)	Singer, Michael	256
Reiten, Idun	5128	Zariski, Oscar	(8655)

H99 *None of the above, but in this section*

Kleinert, W.	254	Sakuma, M.	3397
Matsuoka, Tadayuki	6818		

13Jxx *Topological rings (For ordered rings, see 06A70; see also 16A80.)*J05 *Power series rings*

Bochnak, Jacek	1900	Matsuda, Ryūki; et al.	6817
Brînzănescu, Vasile	(6826)	Roberts, Leslie G.	3395
Dress, François	3393	Takahashi, Tadataka; et al.	6817
Mahler, Kurt	8649		

J99 *None of the above, but in this section*

Guérindon, Jean	6816	Wagner, Carl G.	1901
Seidenberg, Abraham	3396	Warner, Seth	2481

## 14-XX ALGEBRAIC GEOMETRY

-00 *Difficult to classify at the second level*

Black, Amos H.; et al.	(*21)	Lefschets, Solomon; et al.	(*21)
Coble, Arthur B.; et al.	(*21)	Sharpe, F. R.; et al.	(*21)
Dye, Leaman A.; et al.	(*21)	Sisam, Charles H.; et al.	(*21)
Emch, Arnold; et al.	(*21)	Snyder, Virgil; et al.	(*21)

-02 *Advanced exposition (research surveys, etc.)*

(Horváth, John)	*585	Several Complex Variables.	
Proc. Internat. Conf. on		II. Maryland 1970	*585
Several Complex Variables,			
Univ. of Maryland	*585		

14Axx *Foundations*A05 *Relevant commutative algebra (See also 13-XX.)*

Stagnaro, Esio	8653
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A10 *Varieties*

Brückmann, Peter	1926	Kuan, Wei-sihn	1910
Drechsler, Konrad	258	Ramanujan, C. P.	3404
Elsein, Fouad	1927	Richardson, H. W., Jr.	3405
Gaspari, Umberto	3401	Ueno, Kenji	1911
Godeaux, Lucien	1907	Vanhecke, L.	8652
Gröbner, Wolfgang	259		

A15 *Schemes*

Bădescu, Lucian	3423	Waterhouse, William C.	1905
Breszuleanu, Alexandru	3424		

A20 *Generalisations (algebraic spaces, motifs)*

Hoppe, K.	8658	Tognoli, A.; et al.	1909
Lazzeri, F.; et al.	1909		

A25 *Elementary questions*

van der Waerden, B. L.	261
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A99 *None of the above, but in this section*

Katz, Nicholas M.	271	Lazzeri, Fulvio	260
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14Bxx *Local theory*B05 *Singularities (See also 14E15.)*

Bădescu, Lucian	3406, 3407	Lecacheux, Odile	3408
Galburu, Gheorghe	1906		

14Exx *Mappings and correspondences*E15 *Global theory of singularities, resolution*

Hironaka, Heisuke	1913	Schlessinger, Michael	1912
Milnor, John; et al.	2757	Varchenko, A. N.	263
Orlik, Peter; et al.	1914, 2757	Wagreich, Philip; et al.	1914
Porteous, I. R.	2723		

14Fxx *Cohomology theory (See also 13Dxx, 18-XX.)*F05 *Vector bundles, sheaves, related constructions*

Ekouche, Rudolphe	1928	Mather, John W.	5141
Bloch, Spencer; et al.	6825	Morikawa, Hisasi	2414
Gieseker, David; et al.	6825	Porteous, I. R.	2724
Hartshorne, Robin	1929, 6827	Roberts, Leslie G.	6828
Hubbard, John H.	4446	Simons, Juriaan	275
Kubota, Kazuji	1931	van de Ven, A. J. H. M.	276

F10 *Differentials and other special sheaves*

Bégueri, Lucile	8659
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F15 *Serre cohomology, K-theory (See also 13D15, 18P25.)*

Jouanolou, Jean-Pierre	1930
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F20 *Grothendieck cohomology and topology*

Rasoul, Jean-Claude	1932	Thomas, C. E.	(8747)
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F25 *Classical real and complex cohomology*

Fogarty, John	3425
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F99 *None of the above, but in this section*

Bégueri, Lucile	8660	Holme, Audun	3427
Brînzănescu, Vasile	6826	Seydi, Hamet; et al.	3426
Carlson, James A.	5417		
Grothendieck, Alexander; et al.	3426		

14Gxx *Arithmetic problems (For complex multiplication, see 10D25, 14K22.)*G05 *Rationality questions*

Hellegouarch, Yves	3416	Ligozat, Gérard	3417
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G10 *Zeta-functions and related questions*

Hill, Walter L.	1921	Sato, Mikio; et al.	5140
Kisun'ko, A. G.	6822	Shintani, Takuro; et al.	5140
Miyake, Toshitsune	(180)		

G13 *Weil-Tate conjectures*

Deligne, Pierre	5137	Stepanov, S. A.	3418, 6821
Kleinman, S. L.	1920		

G20 *p-adic ground fields (local fields)*

Dwork, B.	3415
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## 14Hxx Curves

## H05 Algebraic function fields

Berndt, Rolf	3378	Olsen, Bruce A.	3412
Cassels, J. W. S.	(177), 1915	Shimura, Goro	(5111)
Kodama, Tetsuo	1919	Tretkoff, Marvin	242
Oleinikov, V. A.	5136		

## H20 Singularities, local rings

Knight, A. J.	267
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## H25 Arithmetic ground fields

Fried, Michael D.; et al.	1916	MacRae, R. E.; et al.	1916
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## H45 Special curves

Dem'janenko, V. A.	5133	Gudkov, D. A.	3411
Di Sante, Alessandro	3410	Heymans, P.	5134

## H99 None of the above, but in this section

Cicchese, Marcello	228	Mumford, David	1918
Iversen, Birger	5135	Vélu, Jacques	3414

## 14Jxx Surfaces and 3-dimensional varieties

## J05 Picard group

Iversen, Birger	*1917
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## J10 Families, moduli, classification: algebraic theory

Codeaux, Lucien	1908, 6820	LeYbin, A. S.; et al.	3402
Ignatenko, V. F.; et al.	3402		

J15 Singularities, moduli, classification: analytic theory  
[See also 32J15.]

Bresinsky, H.	265	Manin, Ju. I.; et al.	266
de Bruin, Wout	262	Sasakura, Nobuo	3409
Iskovskih, V. A.; et al.	266	Wagreich, Phillip	264

## J25 Special surfaces

Iskovskih, V. A.	8654
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## J99 None of the above, but in this section

Utkin, G. A.	3413
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## 14Kxx Abelian varieties and schemes

## K05 Algebraic theory

Luna, D.	(3421)	Beremenev, A. M.	206
Pjateckiĭ-Sapiro, I. I.	3422		

## K10 Algebraic moduli, classification

Altman, Allen	1925
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## K15 Arithmetic ground fields

Casselman, W.	3420
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## 14Lxx Group schemes (For linear algebraic groups, see 200xx.)

## L05 Formal groups, p-divisible groups

Buhstaber, V. M.; et al.	253	Novikov, S. P.; et al.	253
Giesecker, David	5139		

## L10 Group varieties

Bombieri, Enrico; et al.	5089	Lang, Serge; et al.	5089
Iversen, Birger	8656		

## L15 Group schemes

Gaudier, Henri	272	Piense, Ragni	273
Miyajishi, Masayoshi	269	Popp, Herbert	274

## L99 None of the above, but in this section

Kirštein, B. H.	8657	Saavedra Rivano, Neantro	1923, 1924
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## 14Mxx Special varieties

## M05 Varieties defined by ring conditions (factorial, Noetherian)

Zariski, Oscar	8655
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## M99 None of the above, but in this section

Lin, V. Ja.	5404
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## 14Nxx Classical methods and problems

## N05 Projective techniques

Bartocci, U.; et al.	(4269)	Segre, B.; et al.	(4269)
Griffith, G. J.	(1032)		

## N99 None of the above, but in this section

Codeaux, Lucien	5129	Rohlin, V. A.	5131
Ignatenko, V. F.; et al.	5130	Stratopoulos, G. M.; et al.	5132
LeYbin, A. S.; et al.	5130	Wylie, C. R., Jr.; et al.	5132
Poljanskaja, O. P.	2586		

15-XX LINEAR AND MULTILINEAR ALGEBRA; MATRIX THEORY  
(finite and infinite)

## -04 Explicit machine computation and programs (not the theory of computation or programming)

Winograd, S.	(6173)
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## A03 Vector spaces, linear dependence, rank

Kugurakov, V. S.; et al.	8661	Politi, Giuseppe	3428
Maitre, Jean-François; et al.	1933	Sheets, R. P.	3429
Nguyen Huu Vinh; et al.	1933	Sokolov, O. B.; et al.	8661
		Westwick, R.	5142

## A06 Linear equations

Aisenstat, V. S.; et al.	6830, 6831	Kravčuk, D. H.; et al.	6830, 6831
Hodžiev, M.	1935	Murty, Katta G.	277
Hurt, Michiel F.; et al.	1936	Rudnik, D. E.	1934
Katz, Irving Jack	1937	Saprunenko, D. A.	6829
		Wald, Carter; et al.	1936

## A09 Matrix inversion, generalized inverses

Bouillon, T. L.; et al.	5143, 6833	Khatri, C. G.	1939
Good, I. J.	6832	Stallings, W. T.; et al.	5143, 6833

## A12 Conditioning of matrices [See also 65F35.]

Manvel, Bennet; et al.	4998	Stockmeyer, Paul K.; et al.	4998
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## A15 Determinants, permanents, other special matrix functions

Abramson, Norton	1940	Gibson, P. M.	278, 3430
Domorjad, A. F.	6834	Kovalisina, I. V.	1949
England, James W.	3431	Kucharszewski, Mieczysław	5144

A15 *Continued*

Leibson, K. L. 1941 Rothaus, O. S. 8662  
London, David 279

A18 *Eigenvalues and eigenvectors*

Balatoni, Ferenc 280 Lehnigk, Siegfried H. 6836  
Dovlyā, L. N.; et al. 9110 Sherman, Seymour; et al. 5146  
Elsner, L. 6835 Sudakov, V. N.; et al. 9110  
Fan, Ky 5145 Thompson, Colin J.; et al. 5146  
Freede, Linda J.; et al. 1948 Thompson, R. C. 3432  
Lancaster, P. 1942 Thompson, Robert C.; et al. 1948

A21 *Canonical forms, reductions, classification*

Abraham, G.; et al. 6837 Perić, Veselin (245)  
Arthur, B. M.; et al. 6837 Porter, A. Duane; et al. 1944  
Fettweis, Alfred 3433 Sen, Syamal Kumar 6838  
Hanson, Leslie Ann; et al. 1944 Swamidhas, P.; et al. 6837  
Johnson, Larry S.; et al. 282 Varineau, Verne J.; et al. 282  
Kapoor, J. 6840

A24 *Matrix equations and identities*

Barker, George Phillip 3434 Kazimirs'kii, P. S. 8664  
Barnett, S. 5147 Mitra, Sujit Kumar; et al. 1938  
Bhimsankaram, P.; et al. 1938 Perkins, John C. 283, 3435  
Boullion, T. L.; et al. 6839 Poole, G. D.; et al. 6839  
Jones, John, Jr. 1945

A27 *Commutativity*

Dixon, Edmond Dale; et al. 1946 Smiley, M. F.; et al. 3436  
Robinson, Norman F.; et al. 3436 Wong, Nancy; et al. 1946

A30 *Algebraic systems of matrices [See also 16A42, 200xx, 20Bxx.]*

Brignon, Pierre 8663 Makar, Ragy H.; et al. 284  
Dubovoi, V. K. 5795 Passche, I. 5148  
Hosay, Ilham M. S.; et al. 284 Parizet, Jean 2475  
Ljubacevskii, B. D. 6841

A33 *Matrices over special rings (quaternions, finite fields, etc.)*

Levy, Lawrence S. 3437 Wagner, G. B. 8666  
McDonald, B. H. 3438, 8665

A36 *Matrices of integers [See also 10M20.]*

Berman, Stephen; et al. 3439 Spence, Edward (3586)  
Gibson, P. M. 3440 Sulyok, M.; et al. (8548)  
Koslós, J.; et al. (8548) Wonenburger, Maria; et al. 3439  
Woody, Robert; et al. 3439

A39 *Linear inequalities*

Rejtő, L. 9113

A42 *Inequalities involving eigenvalues and eigenvectors*

Ikrarov, H. D. 5149 Satyanaraya Rao, A.; et al. 6842  
Johnston, R. L. 1947 Thompson, R. C. 6843  
Sastry, K. P. R.; et al. 6842

A45 *Miscellaneous inequalities involving matrices*

Furuta, Takayuki 3441 Minc, Henryk; et al. 287  
Marcus, Marvin; et al. 287 Thompson, Colin J. 3442

A48 *Positive matrices and their generalisations*

Belolipeckii, A. A. 288 Murty, Katta G. 1950  
Berman, Abraham; et al. 8667 Schröder, Johann 7492  
DeWarr, Ralph 5150 Sinkhorn, Richard 6844  
Fan Van At 3444 Stettner, H. 1951  
Gaiba, Prabha; et al. 8667 Suchan, Gerald E. 5153  
Kolesov, Ju. S. 289 Therianos, S.; et al. 3445  
Maitre, J. F. 5151 Thompson, R. C.; et al. 3445  
Merris, Russell 5152 Tweedie, Richard L. 1952

A51 *Stochastic matrices*

Brauer, Alfred; et al. 3446 Činák, Pavel 290, 291

Gentry, Ivey C.; et al. 3446 Timan, O. A. 6845  
Jehnsen, E. C. 3447

A57 *Other types of matrices (hermitian, skew-hermitian, etc.)*

Au-yeung, Yik-hoi 281, 8668 Perkins, John C.; et al. 1943  
Ben-Israel, Adi; et al. 3443 Saigal, Ramesh (3236)  
Berman, Abraham; et al. 3443 Vasudeva, Harkrishan 2115  
Pulton, John D.; et al. 1943

A60 *Norms of matrices, applications of functional analysis to matrix theory [See also 65F35, 65J05.]*

Deutch, Emeric 286 Tabachnikov, M. I. 285  
Enikeeva, F. G. 1953

A63 *Quadratic and bilinear forms, inner products*

Knebusch, M.; et al. 1955 Sah, Chih-han 3448  
Lefranc, Christelle (\*3400) Scharlau, W.; et al. 1955  
Riehm, Carl (8736) Ware, Roger; et al. 1954  
Rosenberg, Alex; et al. 1954

A66 *Clifford algebras*

Laborde, Olivier \*1993a, 1993b Villamayor, Orlando E.;  
Micali, Artibano; et al. 1956 et al. 1956

A69 *Multilinear algebra, tensor products*

Amson, J. C. 3449 Merris, Russell; et al. 8669  
Heuvers, Konrad J. 5154, 5155 Roy, Ghislain 3451  
Marcus, Marvin; et al. 8669 Rosenknop, I. Z. 6846  
Merris, Russell 3450

A72 *Vector and tensor algebra, theory of invariants*

Ganea, Virgiliu 1060

A78 *Other algebras built from modules*

de Barros, Constantine M. 4308

16-XX *ASSOCIATIVE RINGS AND ALGEBRAS (For the commutative case, see 13-XX.)*-00 *Difficult to classify at the second level*

Maurer, Julius Gy. 1711 Volodin, I. A. 5201

A02 *Integral domains, unique factorisation domains (noncommutative)*

Heinzer, William; et al. 5156 Ohm, Jack; et al. 5156

A04 *Noncommutative principal ideal rings, rings with a division algorithm*

Lunik, P. P. 295 Zaks, Abraham 5169  
Proper, R. E. 5119

A06 *Free algebras, free ideal rings (free) and their generalisations [See also tensor algebra in 15A72.]*

Artamonov, V. A. 3286 Cohn, P. M. 6866  
Bergman, G. M. 293 Cohn, P. M.; et al. 294  
Bergman, G. M.; et al. 294 Evans, Trevor (417)

A08 *Rings of quotients, noncommutative localisation*

Beauregard, Raymond A. 292 Passman, D. S. 8682  
Elizarov, V. P. 8671 Smith, P. F. 3454  
Heinicke, A. G. 8681 Storrer, Hans H. 8684  
Klein, Abraham A. 8670

A10 *Noncommutative local rings*

Kraemer, Marc (257)



## A12 Prime and semiprime rings

- Eisenbud, David; et al. 316 Robson, J. C. 8687  
 Gordon, Robert 3473 Robson, J. C.; et al. 316, 5170  
 Gwynne, W. D.; et al. 5170

## A16 Separable algebras, Azumaya algebras and their generalizations [See also 13A20.]

- Inatomi, Akira 1974

## A18 Orders, arithmetic in algebras

- Jategaonkar, Arun Vinayak 8672

## A20 Primitive and semiprimitive rings

- Thierrin, G. 3467

## A21 Radical theory

- Gorbečuk, E. L. 6850 Musser, Gary L.; et al. 1962  
 Hoffman, A. E. 296 de la Rosa, Benjamin 4297  
 Mal'cev, Ju. N. 307 Mossa, R. F. (5178)  
 McKnight, J. D., Jr.; et al. 1962 Szász, Ferenc A. 8673, 8674

## A22 Nil, nilpotent and radical rings

- Hmel'nickii, I. L. 6851

## A24 Hopf algebras, algebraic theory [See also 57P05.]

- Larson, Richard Gustavus 8706 Pareigis, Bodo 8707  
 Newman, Kenneth 1957 Takeuchi, Mitsuhiro 1958, 6891

## A26 Group rings [See also 20C05.]

- Possum, T. V. (6942) Szász, Ferenc (6955)  
 Passman, D. S. (8682) Zalesskii, A. E. (6947)

## A28 Rings with involution [See also 46Kxx.]

- Lanski, Charles 1971 Pernet, Roger 6863  
 Maxwell, George 8688 Smith, Kirby C. 1972

## A30 von Neumann regular rings and their generalizations [See also 06A30.]

- Athanasiadis, Andreas G. 5171 Sogawa, Mitsuoyoshi 3474  
 Ertel, Gabriel 3476 Wong, Edward T. 3475  
 Newborn, Ancel C. 1976

## A34 Rings with annihilator conditions

- Drogoniž'ka, M. M.; et al. 6862 Kasimirs'kii, P. S.; et al. 6862

## A36 Frobenius algebras, quasi-Frobenius rings and their generalizations

- Morita, Kiiti 5166 Onodera, Takeshi 1970

## A38 Rings with polynomial identity

- Batbedat, André 5161 Rogers, Kenneth 308  
 Chatters, A. W. 3470 Yaqub, Adil; et al. 1967  
 Putcha, Mohan S.; et al. 1967

## A40 Division rings, simple and semisimple Artin rings

- Albert, A. A. 6855 Koffman, L. A. 5160  
 Beachy, John A. 5159 Raser, A.; et al. 6856  
 Paré, Nicolas; et al. 306 Rauf Qureshi, M. A. 1966  
 Ford, Charles 8678 Schacher, Murray M. 393  
 Hage, Ibrahim; et al. 306 Tominaga, Hisao; et al. 6854  
 Herstein, I. N.; et al. 6856 Walker, R. G. 3469  
 Hutchinson, John; et al. 6857 Zelmanowitz, Julius; et al. 6857  
 Kimura, Shigenao; et al. 6854

## A42 Rings of linear transformations, matrix rings, infinite matrix rings

- Guy, Roland A. 4309 Sugano, Kozo 3465  
 Murase, Ichiro 6858

## A44 Finite rings [See also 12Cxx.]

- Christensen, C. 8691 McDonald, B. R. (8665)  
 Clark, W. Edwin 3481 Mott, Joe L.; et al. 6872  
 Levitz, Kathleen B.; et al. 6872

## A46 Chain conditions; finite dimensional algebras, Artin rings, Noetherian rings

- Chatters, A. W. 1959 Smith, P. F. 3452, 3453  
 Rutter, Edgar A., Jr. 6853 Widiger, Alfred 6849  
 Shock, Robert C. 6848

## A48 Structure, classification

- Abbasov, N. T. 8679 Roggenkamp, K. W. 314  
 Bartocci, Umberto 309 Rosenberg, Alex; et al. 5164  
 Carlson, Andrew B. 310 Roux, Bernard 3471  
 Dočev, Kiril 6859 Rubin, Robert A. 8683  
 Eisenbud, David; et al. 1968 Sozdaeva, G. S.; et al. 5162  
 Freydan, P. A.; et al. 5162 Streb, Walter 8685  
 Griffith, Phillip; et al. 1968 Szász, Ferenc A. 3472  
 Heuer, G. A. 6860 Tol'skaja, T. S. 5167  
 Ivanov, G. 311 Tominaga, Hisao; et al. 1969  
 Knebusch, Manfred; et al. 5164 Tricoire, Annette 8686  
 Markov, V. T. 6861 Vögele, Heinz 4315  
 Marubayashi, Hidetoshi 5165 Ware, Roger; et al. 5164  
 Motose, Kaoru; et al. 1969 Wilson, Robert S.; et al. 313  
 Müller, Ursula; et al. 312 Yaqub, Adil; et al. 313  
 Petrich, Mario; et al. 312 Zaks, Abraham 5168  
 Putcha, Mohan S.; et al. 313

## A49 Duality theory

- Roux, Bernard 1970

## A50 Projective and flat modules and generalizations

- Beachy, John A. 1961 Rutter, E. A., Jr.; et al. 1963  
 Čirkov, G. V.; et al. 5158 Sahae, I. I.; et al. 5158  
 Cline, Ed 8742 Schneider, Hans-Jürgen 319  
 Colby, R. R.; et al. 1963 Sharma, Pramod K. 3463  
 Oberst, Ulrich; et al. 319

## A52 Injective modules, self-injective rings and generalizations

- Gemintern, V. I. 5163 Luedeman, John K. 1965

## A54 Grothendieck groups of rings, K-theory of noncommutative rings [See also 18F25.]

- Gersten, S. M. (8705) Scharlau, Winfried 1834  
 Hikari, Michitaka 8745

## A56 Extension theory

- Chew, K. L. 6865 Kishimoto, Kazuo 6864  
 Elliger, Sigurd 5172 Müller, Ursula; et al. 1975  
 Hutchinson, John J. 3477 Petrich, Mario; et al. 1975

## A60 Homological dimension

- Năstăsescu, Constantin 3480 Roos, Jan-Erik 1995  
 Nico, William R. 5243 Roos, Jan-Erik; et al. 1977  
 Palmér, Ingegerd; et al. 1977 Wahlen, Joseph A. 320

## A62 Homological methods [For cohomology of algebras and rings, See 18H15.]

- Bosch, Siegfried 317 Head, Tom 3458  
 Čirkov, G. V. 318 Lambek, J. 6870  
 Coffee, Jane Purcell 6867 Riehm, Carl (8736)  
 Generalov, A. I. 6869 Rutter, Edgar A., Jr. 6871  
 Harinath, K. S. 6869 Schelter, William 8690

## A64 Modules and representations

- Bernstein, I. N.; et al. 298 Gel'fand, I. M.; et al. 298  
 Bican, Ladislav 3455 Gel'fand, S. I.; et al. 298  
 Brenner, Sheila 3456 Goodearl, K. R. 8675  
 Brodskii, G. M. 6852 Guy, Roland A. 301  
 Bruning, L. M.; et al. 299 Kumar, Ravinder 3459  
 Dauns, John 3457 Leavitt, W. G.; et al. 299  
 Fieldhouse, David J. 1964, 3476, 6868 Martinet, Jacques 302  
 Fisher, Joe W. 1960 Marubayashi, Hidetoshi 8676  
 Fried, E. 300 Magibben, Charles 3479  
 Fuchs, L. 5157 Pierce, R. S. 3460  
 Ravel, Jacques 303

## A64 Continued

Roux, Bernard	3461	Teleman, Silviu	8677
Salles, Danielle	3462	Teply, Mark L.	3466
Shanny, Robert F.	304	Wuytack, F.	305
Shock, Robert C.	3464		

## A70 Commutativity theorems

Carcanague, Jean	3468	Lichtman, A. I.	6847
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## A72 Automorphisms, derivations

Dixmier, Jacques	8680	Ribenboim, P.	1973
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## A74 Galois theory

Knebusch, M.; et al.	1955	Scharlau, W.; et al.	1955
Rosenberg, Alex; et al.	1954	Ware, Roger; et al.	1954

## A76 Near rings

Bell, Howard E.	1979	Ligh, Steve; et al.	5174
Dance, Susan	3482	Marin, V. G.	321
Lawver, D. A.	1980	McQuarrie, Bruce; et al.	5174
Ligh, Steve	3483, 8692	Slotterbeck, Oberta; et al.	5174

## A78 Semirings and other generalizations of rings

Ang, C. H.; et al.	6873	Stone, H. E.	322
Chew, K. L.; et al.	6873	Topencarov, Vladimir V.	3484
Grillet, Mireille Poinaignon	5173		

## A80 Topological rings and semirings [For ordered rings, see 06A70; see also 13Jxx.]

Arnautov, V. I.	3485	Sekanina, Milan	323
Chew, K. L.	3486	Taitas, Leonidas	3487
Mittas, Jean	(239)	Warner, Seth	5175, 6874
Rossignol, Antoine	1981		

## 17-XX NONASSOCIATIVE RINGS AND ALGEBRAS

## -00 Difficult to classify at the second level

Wuytack, F.	305
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## 17Axx General nonassociative algebras

## A05 Power-associative

Loustau, J. A.	3493
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## A15 Noncommutative Jordan algebras

Lewand, Robert	3500	Ravatin, Jacques	3501
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## A20 Flexible algebras

Myung, Hyo Chul	3489
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## A30 Algebras satisfying other identities

Coughlin, Raymond	1984	Rich, Michael; et al.	5176
Coughlin, Raymond; et al.	5176	Thedy, Armin	3502, 5179
Ferrero Cotti, C.	8693		

## A99 None of the above, but in this section

Allen, H. P.	1982	Lythmas, Ja.	3488
Artamonov, V. A.; et al.	1983	Petersson, Holger P.	3490
Burgin, M. S.; et al.	1983	Rich, Michael; et al.	5177
Burgin, M. S.	(6726)	Rossa, R. F.	5178
Coughlin, Raymond; et al.	5177	Towers, D. A.	3491
Iordănescu, Radu	5184	Watters, J. R. F.; et al.	6875
Leavitt, W. G.; et al.	6875	Windelberg, Dirk	3492

## 17Bxx Lie algebras [For Lie groups, see 22Exx.]

## B05 Structure theory

Baumslag, Benjamin	6876	Kostrikin, A. I.	3496
Faulkner, John R.	3494	Lashi, A. A.	3497
Favre, Gabriel	3495	Myung, Hyo Chul	324
Favre, Michel	8694	Razmyslov, Ju. P.	3498
Gaiinov, A. T.	326	Vergne, Michèle; et al.	(3642)
Gilmore, Robert	6878	Wolf, Joseph; et al.	(3642)
Helmstetter, Jacques	327		

## B10 Representations, algebraic theory (weights)

Čurkin, V. A.	5182	Loupas, Michèle	5183
Lemire, F. W.	328		

## B20 Simple, semisimple, reductive algebras (roots)

Dixmier, Jacques	325	Syamala Devi, V.	331
Rudakov, A. M.	329	Wilson, Robert Lee	332

## B30 Solvable, nilpotent algebras

Bokut', L. A.	5181	Luke, E.; et al.	6880
Bryant, R. M.; et al.	6877	Stitsinger, Ernest L.	6881
Leger, G.; et al.	6880	Vaughan-Lee, M. R.; et al.	6877

## B45 Lie algebras of linear algebraic groups [See also 14Lxx and 20Gxx.]

Simonjans, L.	3499
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## B55 Homological methods in Lie algebra [For homology of Lie algebras, see 18H25.]

Kantor, I. L.	6879
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## B60 Lie rings associated with other structures (associative, Jordan, etc.) [See also 15A30, 16A68, 17C40, 17C50.]

Murphy, Timothy	8695
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## B65 Infinite dimensional Lie algebras [See also 22B65.]

Świerczkowski, S.	330
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## B99 None of the above, but in this section

Andreev, K. K.	5180	Vasilescu, F.-H.	7474
Berman, Stephen; et al.	3439	Wonenburger, Maria; et al.	3439
Moody, Robert; et al.	3439		

## 17Cxx Jordan algebras (commutative)

## C05 Identities

Lewand, Robert E.; et al.	8696	McCrimmon, Kevin	8697
McCrimmon, Kevin; et al.	8696		

## C10 Structure theory

Devapakkiam, C. Viola	6882	McCrimmon, Kevin	5185
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## C20 Simple, semisimple algebras

Iordănescu, Radu	2603
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## 17D05 Alternative rings

Kleinfeld, Erwin	5186	Markovičev, A. S.	6883
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## 17E05 Other nonassociative rings and algebras

Arnautov, V. I.	(3485)
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## 18-XX CATEGORY THEORY, HOMOLOGICAL ALGEBRA

## 18Axx General theory of categories and functors

## A05 Definitions, generalizations

Hofer, Robert D. 5983

A15 Foundations, relations to logic and deductive systems  
[See also 02-XX.]

Mijoule, Richard 5194

A20 Epimorphisms, monomorphisms, special classes of morphisms,  
null morphisms, factorization (bi)categories

Coppey, Laurent	3503	Lair, Christian	6884
Panthem, F. H. H.	3504	Nomura, Yasutoshi	5195
Folts, François	3505	Platt, Craig	5196
Pontana, Marco	3284	Radu, Alexandru Gh.	337, 340

## A25 Functor categories, comma categories

Blanc, Georges 3283 Nevell, D. C. 3512

A30 Limits and colimits (products, sums, pushouts, fiber  
products, equalizers, kernels, ends and coends, etc.)

Frei, Armin; et al.	3506	Laudal, Olav Arnfinn	335
Hilton, Peter J.	3508	Macdonald, John L.; et al.	3506
Horrent, Jean-Jacques	3509	Sul'geffer, E. G.	3514

A40 Adjoint functors (representable functors, universal con-  
structions, reflexive subcategories, etc.), constructions  
of adjoints (Kan extensions, etc.)

Bauer, F. W.	333	Kaput, James J.	334
Bunge, Marta C.	1986	Ringel, Claus Michael	1989
Carreau, François	5198	Ulmer, Friedrich	1990
Kainen, Paul C.	1987		

## A99 None of the above, but in this section

Hanna, Azmi	3507	Peake, E. James; et al.	8699
Huq, Syed A.	3510	Peters, Galen R.; et al.	8699
Lair, Christian	5192	Šedivá-Trnková, Vera	3515, 3516
Laplaza, Miguel L.	5193	Servi, Mario	342, 3513
Longagene, Guy	3677		

## 18Bxx Special categories

B10 Category of relations, additive relations, semigroups  
[See also 20Axx.]

Bowman, Thomas T. 2075

## B15 Embedding theorems, universal categories [See also 18E20.]

Kučera, Luděk 8596

## B99 None of the above, but in this section

Lair, Christian 5191

## 18Cxx Categories and algebraic theories

C10 Theories (e.g. algebraic theories), structure, and  
axioms

Fritsch, Rudolf; et al.	8704	Wyller, Oswald	8703
Laplaza, Miguel L.	6885	Wyller, Oswald; et al.	8704
Topencarov, Vladimir V.	(3484)		

C15 Triples (= standard construction, monad or triad), algebras  
for a triple, homology and derived functors for triples  
[See also 18Gxx.]

Hienhuys-Cheng, S. H.	349	Van Osdol, D. H.	3517
Street, Ross	8701		

## 18Dxx Categories with structure

D05 Double categories, 2-categories, bicategories, hyper-  
categories

Herrlich, Horst 5189 Ringel, Claus Michael 341

D15 Closed categories (closed monoidal and cartesian closed  
categories, etc.)

Day, Brian	5187	Kock, Anders	5190
Kelly, G. M.; et al.	1988	MacLane, S.; et al.	1988

## D99 None of the above, but in this section

Vorster, S. J. R.; et al. 343 Wille, R. J.; et al. 343

## 18Exx Abelian categories

## E05 Preadditive, additive categories

Mitchell, Barry 3511

## E10 Exact categories, abelian categories

Barr, Michael	1985	Hoo, C. S.; et al.	3518
Chislett, E.; et al.	3518	Nomura, Yasutoshi	336

## E35 Localization of categories

Stenström, Bo 5252

## E99 None of the above, but in this section

Moore, D. J. 5197 Riguet, Jacques 3519

## 18Fxx Categories and geometry

## F05 Local categories and functors

Hacque, Michel 8698

## F10 Grothendieck topologies [See also 14F20.]

Geronimus, A. Ju. 2742

F20 Presheaves and sheaves [See also 14F05, 32C35, 32D10,  
55B30.]

Radu, Alexandru Gh. 338, 339

## F25 Algebraic K-theory [See also 13D15, 14F15, 16A54.]

Fröhlich, A.	5199	Hector, David L.	1154
Gersten, S. M.	1992, 3522, 8705	Roggenkamp, K. W.	3525
Hall, M. H.	4405	Van der Kallen, Wilberd	(252)
Keune, Frans	3523	Volodin, I. A.	5201
Novikov, S. P.	1994		

## F99 None of the above, but in this section

Cherenack, Paul	345	Pressman, Irvin S.	6887
Nettsch, Rudolf	(4252)		

## 18Gxx Homological algebra

## G05 Projectives and injectives [See also 13C10, 16A50, 16A52.]

Fakir, Sabah	5188	Zimmermann, Wolfgang	350
Seebach, J. A., Jr.	(9322)		



## G20 Homological dimension [See also 13Dxx, 16A62.]

Spears, W. T. 8702

## G25 Relative homological algebra, projective classes

Coffee, Jane Purcell 6867

## G40 Spectral sequences, hypercohomology [See also 55Hxx.]

Adams, J. F.; et al. 3520 Momura, Yasutoshi 6886  
Margolis, H. R.; et al. 3520

## G99 None of the above, but in this section

Atiyah, M. F.; et al. 344 Rosenknoop, I. E. 6889, 6890  
Breszewska, Alexandra 6888 Schochet, Claude \*6020  
Gorbačuk, E. L. 6850 Segal, G. B.; et al. 344  
Kil'p, M. 8755 Stach, Kvetomil 8700  
Norheott, D. G. 5200

## 18Hxx Cohomology of specified algebraic systems

## H10 Cohomology and homology of groups [See also 20Jxx.]

Chapman, G. R. 3521 Magid, Andy R.; et al. 348  
Hoobler, Raymond T.; et al. 348 Marty, Robert 5230

## H15 Cohomology and homology of algebras and rings [See also 16A62.]

Dartois, Ghislain 1991 Pareigis, Bodo (8707)  
Gersten, S. M. 347 Riehm, Carl 8736  
Mitchell, Barry 3524 Stöhr, K. O. (251)

## H20 Cohomology and homology of commutative rings [See also 13Dxx.]

Fleury, Patrick J. 346

## H25 Cohomology of Lie algebras [See also 17B55.]

Fuks, D. B.; et al. 2737 Gel'fand, I. M.; et al. 2737

## H99 None of the above, but in this section

Teleman, Silviu 9153

## 20-XX GROUP THEORY AND GENERALIZATIONS [For ordered groups, see 06A55.]

## -00 Difficult to classify at the second level

Maurer, Julius Gy. 1711

## -04 Explicit machine computation and programs (not the theory of computation or programming)

Brott, C.; et al. 403 Neubüser, J.; et al. 403

## 20Axx Foundations

## A10 Metamathematical considerations [For word problems, see 20F10.]

Romov, E. A. (3189)

## 20Bxx Finite permutation groups

## B05 General theory

Aschbacher, Michael 360 Mosner, Zenon 6908  
Bertram, Edward 6905 Nathanson, M. B. 6909  
Best, M. R. 2003 Rowlinson, Peter 5210  
McDermott, John P. J. 3544

## B10 Characterization theorems

Kaluznin, L. A.; et al. 6906 Mihles, A. S.; et al. 5209  
Klin, M. S.; et al. 6906 Tyskevich, R. I.; et al. 5209

## B15 Uniprimitive groups

Antopol'skii, V. D. 8712 Quirin, William L. 8715

## B20 Multiply transitive groups

Aschbacher, Michael 8713 Kimura, Hiroshi 5208  
Choi, Chang 3542, 3543 Noda, Ryuzaburo 3546  
Kantor, William M. 6907 Shult, Ernest 5211

## B25 Automorphism groups of algebraic, geometric, or combinatorial structures [See also 05Bxx, 20G40, 20H30, 90-XX.]

Coulfal, Oldřich 8714 Nagrebeckii, V. T. 2007  
Dade, Everett C. 3549 Rosati, Luigi Antonio (1037)  
Egan, H. L. 2006 Shaughnessy, Edward P. 6910  
Giordano, Gabriele 3592 Winter, David L. 6911

## B99 None of the above, but in this section

Bannai, Eiichi 3540 Shult, Ernest 3547  
Cameron, Peter J. 3541 Stork, Daniel F. 3548  
McKenzie, Ralph 3545

## 20Cxx Representation theory of finite groups

## C05 Group rings and their modules [See also 16A26.]

Berman, S. D.; et al. 400 Passman, D. S. 407, 2041  
Carlson, Jon F. 8741 Pedrini, Claudio 2042  
Carns, Gail L.; et al. 3591 Roseblade, J. E. 408  
Chao, Chong-yun; et al. 3591 Rossa, G. R.; et al. 400  
Clarke, R. J. 5237 Sandling, Robert 3594  
Fossum, T. V. 6942 Sharma, Pramod K. (3463)  
Hikari, Michtaka (8745) Smith, P. F. (3454)  
Hughes, Ian 2037 Thomas, C. B. 8747  
Levin, Jacques 2038 Tsushima, Yukio 413  
Mason, G. R. 2040 Wallace, D. A. R. 6946

## C10 Integral representations

Dress, Andreas 404

## C15 Ordinary representations and characters

Brauer, Richard 401 Gustafson, William H. 6943  
Broshi, Aviad M. 402 Lorenz, Falko 2039  
Dade, E. C. 6940 Ross, Fiona M. 3554  
End, Werner 405 Roth, Richard L. 409  
Fein, Burton; et al. 5236 Schützenberger, Marcel Paul 3595  
Fields, K. L. 6941 Sipanov, P. K. 5242  
Fomin, A. M. 5239 Tsushima, Yukio 412  
Formanek, Edward 406 Zaleskii, A. E. 6947  
Gordon, Basil; et al. 5238

## C20 Modular representations and characters

Drobotenko, E. S.; et al. 2036 Isaacs, I. M.; et al. 6944  
Drobotenko, V. S.; et al. 2036 Michler, Gerhard; et al. 8744  
Gudivok, P. M. 8743 Richen, Forrest 6945  
Hamernik, Wolfgang; et al. 8744 Scott, L.; et al. 6944

## C25 Projective representations and multipliers

Backhouse, E. B. 2028 Zmud', E. M. 2043, 2044  
Janssen, T. 3593

## C30 Representations of symmetric groups and other special groups

Scharlau, Winfried 1834 Srinivasan, Bhama 411  
Silberger, Allan J. 410

## C35 Applications to physics

Plankett, S. P. O. 3596

## C99 None of the above, but in this section

Baramik, L. F.; et al. 399 Gudivok, P. M.; et al. 399

## 20Dxx Abstract finite groups

## D05 Simple groups [See also 20G40.]

Bryce, N. 372 McKay, John; et al. 2012  
 Hunt, David C. 8721 Ryskin, S. A. 5219  
 Lyons, Richard 8722 Wales, David; et al. 2012  
 Masurov, V. D. 5218

## D10 Solvable groups

Čertok, V. D. 379 Hale, Mark F., Jr.; et al. 3552  
 Cooper, C. D. H. 3567 Makan, A. R. 5220  
 Gagen, Terence M.; et al. 3552 Martineau, R. Patrick 368  
 Goldschmidt, David M. 6913 Venzke, Paul 384  
 Gradsom, C. J. 2018 Ward, J. W. 3572

## D15 Nilpotent groups, p-groups

Berković, Ja. G. 3565 McDougall, D.; et al. 2023  
 Čertok, V. D. 5214 Murphy, Paul F.; et al. 2025  
 Doktorov, I. P. 6923 Sitnikov, V. M. 3555  
 Gol'denberg, M. M. 6924 Stanley, Terence E. 2024  
 Gupta, G. K. 3568 Stitzinger, Ernest L. 3571  
 Harada, Koichiro 8730 Šunkov, V. P. 359  
 Hickin, K. K.; et al. 3569 Tarvater, Dalton; et al. 8733  
 Ivanjuts, I. D. 2019 Ustjuzaninov, A. D. 5217  
 Konvisser, Marc W. 2020 Walker, Elbert; et al. 8733  
 Lindenberg, Wolfgang 3570 Wamsley, J. W. 5223, 8734  
 Magmarov, H. H. 2021, 2022 Wenzel, J. A.; et al. 3569  
 Mann, Avinoam 5221, 5222 Winter, David L.; et al. 2025  
 McCaughan, D. J.; et al. 2023 Zaleskij, A. E. 385

D20 Sylow subgroups,  $\pi$ -groups

Beidleman, J.; et al. 3573 Kohno, A. P. 5225, 5226  
 Brevster, B.; et al. 3573 Mikaeljan, G. S. 3574  
 Cooper, Christopher D. H. 8735 Šušćans'kiĭ, V. I. 5227  
 Currano, John J. 8716 Žak, A. H. 5228

## D25 Special subgroups (Frattini, Fitting, etc.)

Beidleman, J. C.; et al. 3590 Schacher, Murray M. 393  
 Brown, Kevin 3566 Spencer, A. E.; et al. 3550  
 Gol'denberg, M. M. 8717 Vedernikov, V. A. 383

## D30 Series and lattices of subgroups

Baumslag, Benjamin; et al. 351 McCutcheon, J. J.; et al. 8731  
 Baumslag, Gilbert; et al. 351 Newstead, P. E.; et al. 8731  
 Kravchuk, M. I. 3581 Schmid, Peter 5212

## D40 Products of subgroups

Doktorov, I. P. 2010 Štylo, E. I. 382  
 Reilly, W. H. 3278

## D45 Automorphisms

Liebeck, Hans; et al. 367 Ward, J. H. 5224  
 MacHale, Desmond; et al. 367

## D99 None of the above, but in this section

Alperin, J. L. 362 Kurzweil, Hans 6915  
 Baer, Reinhold 2005 Machl, Antonio 3558  
 Berković, Ja. G.; et al. 5213 Monahov, V. S. 6917  
 Camina, A. R. 3551 Mukherjee, N. P. 5216  
 Fischer, Bernd 3557 Neubüser, Joachim; et al. 366  
 Fletcher, L. R. 6912 Neumann, B. H.; et al. 366  
 Glauberman, George 363, 3553 Pogrebinskiĭ, B. M.; et al. 5213  
 Goldschmidt, David M. 364 Poland, John 8718  
 Gorenstein, Daniel; et al. 2008 Reisman, Jochen 369  
 Hale, Mark F., Jr. 365 Sitnikov, V. M.; et al. 370  
 Hering, Christoph 6914 Šlyk, V. V. 371  
 Kovincev, L. F. 5215 Starostin, A. I.; et al. 370  
 Kovács, L. G.; et al. 366 Umacov, H. Ja. 2009, 3556  
 Walter, John E.; et al. 2008

## 20Exx Infinite groups

## E05 Free nonabelian groups

Artemonov, V. A. 1998 Lewin, Jacques; et al. 3534  
 Cheln, Orin 6898 Lewin, Tekla; et al. 3534  
 Eidel'kind, D. I. 8709 Liskovec, V. A. 6900  
 Evans, Trevor (417)

## E10 Varieties of groups

Brooks, M. S. 3526 Macdonald, Sheila Oates; et al. 6893  
 Bryant, Roger M. 8708 McKay, Susan 6894  
 Bryce, R. A. 3527 Newman, M. F.; et al. 1996  
 Zagrycev, G. P. 8729 Polin, S. V. 1997  
 Eršov, Ju. L. 6892 Rips, I. A. 353  
 Groves, J. N. J. 3528 Street, Anne Penfold; et al. 6893  
 Keller, Gordon 5202 Vaughan-Lee, M. R. 3529  
 Kotlov, V. M. 352 Weichsel, Paul M. 6895  
 Kovács, L. G.; et al. 1996  
 Kuroš, A. G. (5063)

## E15 Chains of subgroups (solvable groups, nilpotent groups, etc.)

Koch, Helmut 380 Mežbovskij, Ju. M. 8738  
 Meldrum, J. D. P. 8732 Smith, P. F. (3452)

## E20 Special subgroups other than commutator types

Stonehewer, Stewart E. 3580

## E25 Local properties, residual properties

Graddon, C. J.; et al. 6928 Peel, Michael Harry; et al. 5206  
 Gruenberg, K. W.; et al. 3538 Polovickij, Ja. D. 5207  
 Bartley, B. 394 Remeslennikov, V. N. 3539  
 Bartley, B.; et al. 6928 Roseblade, J. E.; et al. 3538  
 Kerber, Adalbert; et al. 5206 Stanley, Terence E. 6904  
 Mičenko, B. I. 6903 Šunkov, V. P. 2002

## E30 Free products, generalised properties

Boydron, Yves 8737

## E99 None of the above, but in this section

Zil'ber, B. I. (49)

## 20Fxx General groups, finite or infinite

## F05 Generators and relations

Andreadakis, S. 6896 Quintana, R. E., Jr.; et al. 2000  
 Arrhenius-Wold, Anna-Lisa 3531 Pavlov, R. D. 3536  
 Baumslag, Gilbert 354, 6897, 8710 Pickel, P. F. 381  
 Golovin, O. N. 8711 Remeslennikov, V. N.; et al. 2001  
 Gupta, N. D.; et al. 2000 Roseblade, J. E.; et al. 6926  
 Kopytov, V. M. 355 Searty, D. G.; et al. 357  
 Lennox, J. C.; et al. 6926 Sokolov, V. G.; et al. 2001  
 Lipschitz, Seymour 5203 Sun, H. S. 6927  
 Monzingo, M. G. 356 Wamsley, J. W.; et al. 357  
 Weinbaum, C. M. 6901

## F10 Word problems

Appel, K. I.; et al. 3530 Lyndon, Roger C. 3535  
 Asmanov, S. A. 1999, 3532 Pavlov, R. D. (4972)  
 Cohn, Harvey 6899 Schupp, P. E.; et al. 3530  
 Kovács, L. G.; et al. 3533 Vaughan-Lee, M. R.; et al. 3533  
 Lotho, N. V. 5204

## F15 Structure theorems

Aschbacher, Michael 6916 Miller, Donald W. 2011  
 Černikov, S. M. 6933 Šemetkov, L. A. 6918  
 Heineken, Hermann 6925

## F20 Limits, profinite groups

Ribes, Luis 389

## F25 Extensions, wreath products, other compositions

Allenby, R. B. J. T.; et al.	3577	Graddon, C. J.; et al.	6928
Ammanov, S. A.	390	Gregorac, Robert J.; et al.	3577
Beidleman, J.; et al.	6929	Hartley, B.; et al.	6928
Belickov, V. O.	6931	Kerber, Adalbert; et al.	5206
Billie, M.	2027	Mozzrymas, Jan	386
Brewster, B.; et al.	6929	Peel, Michael Harry; et al.	5206
Edel'kind, D. I.	5231	Roseblade, J. E.; et al.	3538
Feinberg, V. Z.	3578	Schupp, Paul E.	392
Gol'denberg, M. M.	391	Seksenbaev, K.	6932
		Wehrfrits, B. A. F.	5236

## F30 Subgroup lattices, maximal subgroups, subnormal subgroups, etc.

Belov, Ju. A.	5233	Pekelis, A. S.	6935
Černikov, S. N.	5232	(Euid, O. Ju.)	5232
Maier, Rudolf	3579	Salcev, D. I.	3582, 3583
Menegazzo, Federico	6934		

## F35 Commutator subgroups and their generalizations

Waldinger, Hermann V.	3537
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## F50 Periodic groups

Polovickii, Ja. D.	6902	Zagorin, L. E.	5205
Šunkov, V. P.	358		

## F55 Automorphisms

Hallett, J. Terry; et al.	361	Nagrebickii, V. T.	8719
Hirsch, Kurt A.; et al.	361		

## F99 None of the above, but in this section

Hewell, Martin L.	6930
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20Gxx Linear algebraic groups (classical groups)  
(See also 10C30, 14-XX; for analytic methods on  
p-adic groups and adèle groups, see 22E55.)005 Representation theory [For infinite dimensional  
representations, see 22E50.]

Andreev, E. M.; et al.	268	Konjušihina, T. N.	3636
Bernard, Mark	6939	Margulis, G. A.	(2088)
Bernstein, I. N.; et al.	298	Martin, Christiane	2089a-b
Gel'fand, I. M.; et al.	298	Novodvorskiĭ, M. E.	459
Gel'fand, S. I.; et al.	298	Platonov, V. P.	6824
Igusa, Jun-ichi	6823	Popov, V. L.; et al.	268
Jacquet, Hervé	(453)	Soto Andrade, Jorge	8746
Kissin, E. V.	3635	Wong, W. J.	8748

## 015 Linear algebraic groups over arbitrary fields

Birkes, David	5138	Newman, M. F.; et al.	395
Borel, A.; et al.	3419	Phan, Kok-wei	5234
Dye, R. H.	3589	(Phan, Kok-wei)	8739
Frick, M.; et al.	395	Platonov, V. P.	1922
Humphreys, J. E.	8739	Solazzi, Robert	397
Leonard, Henry S., Jr.	5240	Spiegel, Eugene	3588
Luna, D.	3421	Suprunenko, D. A.	5235
Nakamura, Tetsuo	270	Tits, J.; et al.	3419
		Wilson, J. S.	398

020 Linear algebraic groups over the reals, the complexes,  
the quaternions

Bel'ko, I. V.	449	Ovčinnikov, S. V.	(464, 465)
James, D. G.	6936	Pahlings, Herbert	5241
Lindsey, J. M., II	3590	Suprunenko, D. A.	2035
Lowenthal, Franklin	450	Verma, Daya-Nand	139
Murnaghan, Francis D.	6937	Wallach, Nolan R.	(8778)
Nguen Kuok Thi	2032		

025 Linear algebraic groups over local fields and their  
integers

Kirštein, B. H.	8657
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035 Linear algebraic groups over adèles and other rings and  
schemes

Burley, James P.	8740	Robertson, E. F.	2034
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Romanovskii, W. S.	396	Stein, Michael R.	451
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## 099 None of the above, but in this section

Čadaev, V. I.	6938
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## 20Hxx Other groups of matrices

## H05 Unimodular groups, congruence subgroups

Collins, Michael J.	8720	Spence, Edward	3586
Solazzi, Robert E.	3585		

H10 Frobenian groups and their generalizations (See also 30A58,  
32Hxx.)

Hoare, A. Howard M.; et al.	2029	Stebe, P. F.	2030
Karras, Abraham; et al.	2029	Takeuchi, Kisao	3587
Solitar, Donald; et al.	2029		

H15 Other geometric groups, including crystallographic groups  
(See also 50-XX.)

Chen, M.	3254	Payne, Stanley E.	(7586)
Dye, R. H.	2031	Pieper, Irene	3584
Faulkner, John R.	(4273)	Vinberg, E. B.	(4261)

## H20 Other matrix groups over fields

Ljubačevskii, B. D.	(6841)
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## H25 Other matrix groups over rings

Freislich, M. R.	2033
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20Jxx Connections with homological algebra and  
category theory

## J05 Homological methods in group theory

Alperin, J. L.; et al.	387	Hilton, P. J.; et al.	3575
Eckmann, B.; et al.	3575	Marty, Robert	5230
Fel'dman, G. L.	5229	Quillen, Daniel	7743
Gorenstein, Daniel; et al.	387	Swierczkowski, S.	2026

## J10 Groups arising as cohomology groups

Blackburn, Norman	388	Venkov, B. B.; et al.	3576
Quillen, D.; et al.	3576		

## J99 None of the above, but in this section

Cline, Ed	8742	Riehm, Carl	(8736)
Hempel, John	4418		

## 20Kxx Abelian groups

## K10 Torsion groups

Hausen, Jutta	2015	Moore, J. Douglas; et al.	6921
Hewett, Edwin J.; et al.	6921		

## K15 Torsion free groups, finite rank

Fuchs, L.; et al.	8723	Loonstra, F.; et al.	8723
Kušnir, M. I.	8724	Sebel'din, A. M.	8728

## K25 Direct sums, direct products, etc.

Feigelstock, S.	2014	Myškin, V. I.	3963
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## K30 Automorphisms, homomorphisms, endomorphisms

Beljakova, N. P.	374	Misina, A. P.	8727
McGibben, Charles	8725		



## K40 Homological and categorical methods [See also 18H10.]

- |              |      |                   |      |
|--------------|------|-------------------|------|
| Ito, Ryuichi | 6920 | Megibben, Charles | 8726 |
|--------------|------|-------------------|------|
- K99 None of the above, but in this section
- |                      |           |                              |            |
|----------------------|-----------|------------------------------|------------|
| Barenzik, L. F.      | 373       | Monkalenko, A. I.            | 3562       |
| Camion, Paul; et al. | 6919      | Mylopoulos, J. P.; et al.    |            |
| Cybanov, M. V.       | 375       |                              | 3140, 3141 |
| Faltings, Kai        | 2013      | Pavlidis, T.; et al.         | 3140, 3141 |
| Fuchs, L.            | (5157)    | Rhemtulla, A. H.; et al.     | 2017       |
| Hall, R. R.          | 3559      | Rohlina, V. S.               | 377        |
| Hill, Paul           | 376, 2016 | Street, Anne Penfold; et al. |            |
| Mann, H. B.; et al.  | 6919      |                              | 2017       |
| May, Warren          | 3560      | Tone, Noriko                 | 6922       |
| Megibben, Charles    | 3561      | Warfield, R. B., Jr.         | 378        |
|                      |           | Yap, H. F.                   | 3564       |

## 20Mxx Semigroups

## M05 Free semigroups, generators and relations, word problem

- |                             |          |                            |            |
|-----------------------------|----------|----------------------------|------------|
| Berglund, John F.; et al.   | 2053     | Putcha, Mohan S.; et al.   |            |
| Bosbach, Bruno              | 2046     |                            | 2050, 6954 |
| Evans, Trevor               | 417      | Rodriguez, Gastano         | 3601       |
| Justin, Jacques             | 5248     | Spehner, Jean-Claude       | 431        |
| Magill, K. D., Jr.; et al.  | 420, 421 | Thierrin, G.               | 6956       |
|                             | 422      | Ustjan, A. E.              | 6957       |
| McAlister, D. B.            | 422      | Vagner, V. V.              | 3614       |
| Mielke, Bruce W.            | 3611     | Weissglass, Julian; et al. | 6954       |
| Mislove, Michael W.; et al. | 2053     | Yasumuro, S.; et al.       | 420, 421   |
| Osipova, V. A.              | 6953     | Yaqub, Adil; et al.        | 2050       |

## M10 Structure theory, ideals, idempotents, etc.

- |                             |                        |                              |            |
|-----------------------------|------------------------|------------------------------|------------|
| Allard, Jean-Claude         | 425                    | Ljubencova, Liljana; et al.  | 3599       |
| Arendt, B. D.; et al.       | 3598                   | McFadden, R.; et al.         | 2059       |
| Ault, Janet E.              | 414, 5244              | McKensie, Ralph              | 2060       |
| Babnev, E. A.; et al.       | 427                    | McKnight, J. D., Jr.; et al. |            |
| Baird, G.; et al.           | 6959                   |                              | 5261       |
| Baird, G. E.                | 415, 5256              | McMorris, F. H.; et al.      | 2061       |
| Bernstein, Neil             | 2054                   | Meakin, John                 | 3600       |
| Berthiaume, Pierre          | 6960                   | Migliorini, F.               | 427        |
| Birjukov, A. P.             | 6949                   | Mustafae, L. G.; et al.      | 423        |
| Bondarev, V. G.             | 416                    | O'Carroll, L.; et al.        | 2059       |
| Bouvier, Alain; et al.      | 3603                   | Petric, Mario                | 3612       |
| Butler, Kim Ki-hang         | 426, 5245              | Putcha, Mohan S.             | 428        |
| Cannon, John J.             | 6950                   | Putcha, Mohan S.; et al.     | 429        |
| Cvetkova, Gena; et al.      | 3599                   | Rédei, L.; et al.            | 430        |
| Eberhart, Carl; et al.      | 5258                   | Rhodes, John; et al.         | 8756       |
| Ersova, T. I.               | 8750, 8751             | Sadowski, E.; et al.         | 5261       |
| Fabrizi, Imrich             | 2047                   | Sasaki, Morio; et al.        | 2062       |
| Faisant, Alain; et al.      | 3603                   | Satyannarayana, M.           | 2051, 6964 |
| Feller, E. H.; et al.       | 3604                   | Satyannarayana, M.; et al.   | 2061       |
| Fennimore, Charles F.       | 3605                   | Schwarz, Stefan              | 2063       |
| Fortunatov, V. A.           | 8752                   | Selden, John; et al.         | 5258       |
| Gantos, R. L.; et al.       | 3604                   | Shafat, Ahmad; et al.        | 2048       |
| Garvacki, V. S.             | 5246                   | Skornjakov, L. A.            | 8757       |
| Gerhard, J. A.; et al.      | 2048                   | Stenström, Bo                | 5252       |
| Glushkin, L. M.             | 3606                   | Stuth, C. J.; et al.         | 3598       |
| Grigor, N. S.               | 2055                   | Tamura, Takayuki; et al.     |            |
| Grillet, Pierre Antoine     | 2056, 8753, 8754       |                              | 2062, 3602 |
| Hamilton, Howard B.; et al. | 3602                   | Thierrin, G.; et al.         | 6959       |
| Heuer, Charles V.           | 2057                   | Tilson, Bret                 | 5262       |
| Hetsel, E.                  | 3607                   | Tilson, Bret R.; et al.      | 8756       |
| Isbell, John R.             | 5247                   | Trahtman, A. N.; et al.      | 430        |
| Kil'p, M.                   | 8755                   | T'rkalanov, Kr.              | (5047)     |
| Kim, Jin Bai                | 2049                   | Trotter, Peter G.            | 3613       |
| Kuroki, Nobuaki             |                        | Vagner, V. V.                | 3615       |
|                             | (135), 419, 5249, 5259 | Venkatesan, P. S.            | 5253       |
| Lajos, Sándor               | 2058, 3608, 3609       | Voss, Klaus                  | (5049)     |
| Lal, Harbans                | 6951                   | Weissglass, Julian; et al.   | 429        |
| Laillement, Gerard          | 5260, 6962             | Wiegandt, Richard            | 2064       |
|                             |                        | Xil'ber, B. I.               | 2065       |

## M15 Mappings of semigroups

- |                          |      |                       |      |
|--------------------------|------|-----------------------|------|
| McAlister, D. B.; et al. | 3610 | O'Carroll, L.; et al. | 3610 |
|--------------------------|------|-----------------------|------|

## M20 Semigroups of transformations, etc. [See also 47D05.]

- |                         |      |                         |      |
|-------------------------|------|-------------------------|------|
| Butsach, Philippe       | 8749 | ŠaIn, B. M.             | 424  |
| Feinberg, V. E.; et al. | 2052 | Schwarz, Stefan         | 5251 |
| Magill, Kenneth D., Jr. | 2651 | Tyskevic, R. I.; et al. | 2052 |
| Maxson, Carlton J.      | 6952 |                         |      |

## M25 Semigroup rings, multiplicative semigroups of rings

- |                  |      |               |      |
|------------------|------|---------------|------|
| McAlister, D. B. | 5250 | Szász, Ferenc | 6955 |
| Nico, William R. | 5243 |               |      |

## M30 Representation of semigroups

- |                              |      |                       |            |
|------------------------------|------|-----------------------|------------|
| Accél, J.; et al.            | 2004 | Kannappan, P.; et al. | 2004       |
| Baker, J. A.; et al.         | 2004 | Leschin, M. M.        | 3597, 6948 |
| Šoković, Dragomir N.; et al. | 2004 | Petric, Mario         | 2045       |
| Golunkov, Ju. V.             | 418  | Radó, F.; et al.      | 2004       |

## M99 None of the above, but in this section

- |                        |      |                        |      |
|------------------------|------|------------------------|------|
| Agrawal, R. C.         | 5255 | ŠaIn, B. M.)           | 6958 |
| Burris, S.; et al.     | 5257 | (Ševrin, L. N.)        | 6958 |
| (Gubovits, J.)         | 6958 | (Šimel'fenig, O. V.)   | 6958 |
| (Glushkin, L. M.)      | 6958 | (Skornjakov, L. A.)    | 6958 |
| Golubov, E. A.         | 6961 | (Šneperman, L. B.)     | 6958 |
| (Golubov, E. A.)       | 6958 | (Šutov, E. G.)         | 6958 |
| (Ovaramija, A. A.)     | 6958 | (Trepetin, M. S.)      | 6958 |
| (Leschin, M. M.)       | 6958 | (Vagner, V. V.)        | 6958 |
| (Markov, Al. A.)       | 6958 | Zupnik, David          | 5254 |
| Mel'nik, I. I.         | 6963 | Problems on semigroups | 6958 |
| Nelson, Evelyn; et al. | 5257 | Semigroups             | 6958 |
| (Petric, M.)           | 6958 | Sverdlovsk Symposium   | 6958 |
| (Ponizovskij, I. S.)   | 6958 |                        |      |

## 20Nxx Other generalizations of groups

## M05 Loops, quasigroups [See also 05Bxx.]

- |                            |                  |                         |                |
|----------------------------|------------------|-------------------------|----------------|
| Belousov, V. D.; et al.    | 2066             | Lindner, C. C.; et al.  | 3618           |
| Bo'bot, A. D.              | 6965             | Lindner, Charles C.     |                |
| Chen, Orin; et al.         |                  |                         | 434, 435, 2070 |
|                            | 2067, 2068, 6966 | Mendelsohn, W. S.       | 6969           |
| Dement'eva, V. I.          | 3616             | Milif, Svetozar         | 3619           |
| Evans, Trevor              | 6967             | Moldava'ska, E. Ja.     | 6970           |
| Pichtner-Schultz, Barbara  |                  | Monk, J. D.; et al.     | 3292           |
|                            | 432, 433         | Orlik-Flugfelder, Hala; |                |
| Fitz-Gerald, D. G.; et al. | 2069             | et al.                  | 2067, 6966     |
| Gluhov, M. M.              | 5264             | Preston, G. B.; et al.  | 2069           |
| Golovko, I. A.             | 3617             | Robinson, D. A.; et al. | 2068           |
| Ovaramija, A. A.; et al.   | 2066             | Sison, F. M.; et al.    | 3292           |
| Kuz'min, E. N.             | 6968             | Straley, T. H.; et al.  | 3618           |

## M10 Ternary systems (heaps, semiheaps, heapoids, etc.)

- |                 |      |  |  |
|-----------------|------|--|--|
| Mustafae, L. G. | 3623 |  |  |
|-----------------|------|--|--|
- |                 |      |                      |      |
|-----------------|------|----------------------|------|
| Belousov, V. D. | 8758 | Sison, F. M.; et al. | 3292 |
| Rusakov, S. A.  | 3625 | Slipenko, A. K.      | 2071 |

## M99 None of the above, but in this section

- |                            |        |                       |         |
|----------------------------|--------|-----------------------|---------|
| Beljanskaja, G. B.; et al. | (6725) | Shee, S. C.; et al.   | (6696)  |
| Čeban, A. M.; et al.       | (6725) | Šlin'ko, A. M.        | (143)   |
| Duncan, Hilda F.; et al.   | 5263   | Slipenko, A. K.       | (6734)  |
| Duncan, R. L.; et al.      | 5263   | Soubilin, Jean-Pierre | 436-438 |
| Franklin, B. R.            | 3624   | Stach, Květomil       | 8700    |
| Mendelsohn, N. S.          | (6690) | Tarjan, Robert E.     | 3621    |
| Mittas, Jean               | (239)  | Teh, H. H.; et al.    | (6696)  |
| Padmanabhan, R.            | 3620   | Tzervos, Spiros P.    | 3622    |
| Sedláček, Ladislav         | 8759   |                       |         |

## 22-XX TOPOLOGICAL GROUPS, LIE GROUPS (For transformation groups, see 54H15, 57Exx, 58-XX. For abstract harmonic analysis, see 43-XX.)

## -00 Difficult to classify at the second level

- |                    |      |
|--------------------|------|
| Maurer, Julius Gy. | 1711 |
|--------------------|------|

## -02 Advanced exposition (research surveys, etc.)

- |            |       |               |       |
|------------|-------|---------------|-------|
| Bruhat, F. | 42072 | (Ramanan, S.) | 42072 |
|------------|-------|---------------|-------|

## 22Axx Topological algebraic systems (For topological rings and fields, see 12Jxx, 13Jxx, 16A80; for dual spaces of operator algebras and topological groups, see 46L05.)

## A05 Structure of general topological groups

Bel'nov, V. K.	2079	Morris, Sidney A.	2081, 4102
Geller, V. A.; et al.	2080	Muhin, Ju. N.	6973
Kalton, N. J.	3628	Nienhuys, J. W.	442
Kenderov, P. S.; et al.	2080	Saifagyl, Miklós; et al.	8767
Lalithambal, R.	443b	Thornton, M. C.	443a
Laursen, Kjeld B.	2476	Wang, S. P.	5270
Losben', T. M.	441	Yang, J. S.	8768
Maurer, Julius Gy.; et al.	8767	Zenf, P.	8779

## A10 Analysis on general topological groups

Bauer, Walter	8769
---------------	------

## A15 Structure of topological semigroups

Anderson, L. W.; et al.	5265	Bunter, R. P.; et al.	5265
Bandelow, Christoph	2074	Jayachandran, Toke; et al.	6972
Berglund, John F.	5266	Kelmsel, Klaus	440
Bowman, Thomas T.	2075	Mislove, Michael W.	5267
Brown, Gavin; et al.	2076	Moran, William; et al.	2076
Day, Jane M.	8760	Minina, A. L.	8766
Day, Jane M.; et al.	8761	Minina, A. L.; et al.	8765
Demencuk, V. V.	8762	Riesenmann, M.	9159
Friedberg, Michael	439	Skrjago, A. M.	8764
Hanson, T. E. McH.	3626	Stralka, A. R.	3627
Hildebrandt, John A.	2077	Vorob'ev, A. V.; et al.	8765
Hofmann, K. H.; et al.	8761	Wilde, Carroll; et al.	6972

## A20 Analysis on topological semigroups

Alò, Richard A.; et al.	2454	Pondělčák, Bedřich	8763
de Korvin, Andre; et al.	2454	Tserpes, N. A.; et al.	5268
Mukherjee, A.; et al.	5268	Wiley, Samuel J.	5731
Neuberger, J. W.	5269		

## A25 Representations of general topological groups and semigroups

Mislove, Michael W.	2078
---------------------	------

## A30 Representations of other topological algebraic systems

Ufnarova-Kaja, T. P.	6971
----------------------	------

## A99 None of the above, but in this section

Alas, Orelia Teresa	(4964)	Al'sevič, V. V.	2073
---------------------	--------	-----------------	------

## 22Bxx Locally compact abelian groups (LCA groups)

## B05 General properties and structure of LCA groups

Fulp, Ronald O.	3629	Tatsuuma, Nobuhiko	3631
Morris, Sidney A.	3630		

## B99 None of the above, but in this section

Baker, R. C.	2408
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## 22C05 Compact groups

Sharpe, Kevin J.	2083
------------------	------

## 22Dxx Locally compact groups and their algebras

## D05 General properties and structure of locally compact groups

Anderson, D. N.	6974	Tatsuuma, Nobuhiko	8777
Sato, Ryotaro	3675	Wang, S. P.	444
Stern, A. I.	3639		

## D10 Unitary representations of locally compact groups

Arsac, Gilbert	9154	Hirschfeld, Rudolf A.	6979
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## D12 Other representations of locally compact groups

Greenleaf, Frederick; et al.	6978	Robertson, Lewis; et al.	5271
Kaniuth, Eberhard	2082	Wawrzyński, A.	2098
Mosak, Richard D.	2096	Wilcox, Theodore W.; et al.	5271
Moskowitz, Martin; et al.	6978		

## D99 None of the above, but in this section

Busby, Robert C.; et al.	2495	Schochetman, Irwin; et al.	2495
Sankaran, S.; et al.	2493	Selesnick, S. A.; et al.	2493

## 22Exx Lie groups (For the topology of Lie groups and homogeneous spaces, see 57Exx, 57Fxx; for the analysis thereof, see 43A80, 43A85, 43A90.)

## E10 General properties and structure of complex Lie groups

Birkes, David	5130	Cornwell, J. F.	446
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## E15 General properties and structure of real Lie groups

Price, J. F.	8772	Wallach, Nolan R.	8778
Rauch, Gérard	8770	Warner, Frank W.	4312
Richardson, R. W., Jr.	8771		

## E20 General properties and structure of other Lie groups

Ragasin, David L.	3633
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## E25 Nilpotent and solvable Lie groups

Auslander, L.; et al.	(2092)	Tolimieri, Richard	448, 3634
Kostant, B.; et al.	(2092)		

## E30 Analysis on real and complex Lie groups (See also 33A75, 43-XX.)

Ragasin, David L.; et al.	466	Venkov, A. B.	452
Rothschild, Linda Freiss; et al.	466		

## E40 Discrete subgroups of Lie groups (See also 32Bxx.)

Hotta, Ryoshi	447	Margulis, G. A.	2088
Lee, D. H.	2087		

## E43 Structure and representation of the Lorentz group

Wilson, Edward N.	2091
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## E45 Representations of Lie and linear algebraic groups: analytic methods (For the purely algebraic theory, see 20005.)

Abellanas, L.; et al.	6977	Maurin, L.; et al.	458
Auslander, L.; et al.	2092	Niederle, J.; et al.	8773
Duflo, Michel	6975	Nikolov, A. V.	454
Flores, J.; et al.	8773	Okamoto, K.; et al.	8774
Galindo, A.; et al.	6977	(Ol'sanskii, G. I.)	6975
Gutkin, E. A.	6976	Petrosjan, V. S.	460
(Gutkin, E. A.)	6975	Piard, Alain	5273
Belgason, Sigurdur	2094	Saito, Masahiko	8776
Jacquet, Hervé	453	Sally, Paul J., Jr.	8775
Knapp, A. W.; et al.	8774	Satake, I.	5274
Kostant, B.; et al.	2092	Shin'ya, Hitoshi	461
Litvinov, G. L.	457	Takeuchi, Masaru	2090
Mackey, George W.	2095	Thieleker, Ernest	2097
Maurin, K.; et al.	458		

## E50 Representations of Lie and linear algebraic groups over local fields: analytic methods (For the purely algebraic theory, see 20005.)

Andreev, E. M.; et al.	(268)	Popov, V. L.; et al.	(268)
Bernat, P.	455		

## E60 Lie algebras of Lie groups (For the algebraic theory of Lie algebras, see 17Bxx.)

Baumslag, Benjamin	(6876)	Simonjans, L.	(3499)
Dixmier, Jacques	467	Vergne, Michèle; et al.	3642
Goodman, Roe	2102	Wolf, Joseph; et al.	3642
Klimik, A. U.	5272	Zeitlin, Joel	6980
Sabinin, L. V.	5279		

- 865 *Infinite dimensional Lie groups and their Lie algebras*  
[See also 17B55, 58B05.]
- de la Harpe, Pierre; et al. 2758 Rumer, Ronald; et al. 2758  
Ousilou, René 1203
- 870 *Applications of Lie groups to physics; explicit representations* [See also 81-XX.]
- Kostant, Bertram 3638 Nikolov, A. V. (1493)
- 899 *None of the above, but in this section*
- Davies, E. B. 5766 Hoffman, William C. (8313)  
Dubovoi, V. K. 5796 Kostin, V. M. 3975  
Dunkl, Charles F. 2496 Rumer, Ronald; et al. 5771  
de la Harpe, Pierre 5770 Vasilescu, F.-H. 7474  
de la Harpe, Pierre; et al. 5771
- 26-XX REAL FUNCTIONS [See also 54C30.]
- 01 *Elementary exposition (collegiate level)*
- (Janiš, Radovan R.) (\*6553) Introducing young people to scientific work (\*6553)
- A03 *Foundations: limits and generalizations, elementary topology of the line*
- Ceitin, G. S.; et al. 6984 Prasad, S. N. 6983  
Davies, Roy G. 2656 Wegmann, Helmut 2122  
Kramer, Edward 468 Zaslavskii, I. D.; et al. 6984  
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- A06 *One-variable calculus*
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| Bilii, V. I.; et al.     | 5331       | Vinogradov, S. A.; et al. | 562  |
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| Berković, F. D.; et al.  | 567        | Labowicz, Henryk; et al.      | 572        |
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## A92 Generalized analytic functions

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| Bauer, Karl Wilhelm | 2298 | Musaev, K. M.    | 3728             |
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| Kečkić, Jovan D.    | 745  | Umanov, Z. D.    | 3730, 3731, 3732 |
| Misnjakov, N. T.    | 7080 | Yu, Chung Ling   | 2189             |

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| Dimitrović, Dragan | 5380 | Nasibov, S. M. | 3729 |
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| Kapšivil, O. O.; et al. | 7084   | Polozii, G. M.         | 8863 |
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| Abdullaev, H. A.  | 3984 | Čumakov, S. A.; et al. | (7326)     |
| Berzsenyi, George | 3985 | Fukman, N. A.; et al.  | (7326)     |
| Bovin, V. A.      | 3986 | Tu, Shih-tong          | 2349, 2350 |

## A96 Other generalizations of analytic functions (including abstract-valued functions)

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|-------------------|------------|
| Delanghe, Richard | 3733, 3734 |
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## A97 Functions of hypercomplex variables and generalized variables

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| Patčeva, M. | 5382 | Raimov, R. | 5526 |
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## A98 Spaces and algebras of analytic functions (See also 46J15.)

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| Barril, Christian | (8864) | Papin, Jean       | 5383 |
| Fel'dman, G. M.   | 3736   | Šamojan, F. A.    | 905  |
| Hornich, Hans     | 3737   | Vinogradov, S. A. | 4137 |
| Ossadil, E. M.    | 5760   | Voskanjan, V. V.  | 7459 |

## 31-XX POTENTIAL THEORY (For probabilistic potential theory, see 60J45.)

## 31Axx Two-dimensional theory

## A05 Harmonic, subharmonic, superharmonic functions

- |                 |      |                |            |
|-----------------|------|----------------|------------|
| Cygankov, A. A. | 5651 | Lewis, John L. | 3739, 5389 |
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## A15 Potentials and capacity, harmonic measure, extremal length

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| Makarov, V. L.; et al. | (7134), (7135) | Polozii, G. M.; et al. | (7134), (7135) |
|                        |                | Preston, C.            | 3743           |

## A20 Boundary behavior (Fatou type theorems, etc.)

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|--------------------|------|-----------------|------|
| Bočorišvili, M. A. | 8865 | Walter, Gilbert | 7467 |
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## A25 Boundary value and inverse problems

- |                           |        |                          |        |
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| Bondarenko, P. S.; et al. | (4685) | Makarov, V. L.; et al.   | (2936) |
| Čeredničenko, V. G.       | 5390   | Nedjalkov, I. P.; et al. | 7089   |
| Daničević, V. P.; et al.  | (4685) | Ramizov, D. R.; et al.   | (2936) |
| Fedenko, N. P.; et al.    | 577    | Soldatov, A. P.          | 5393   |
| Kortun, I. M.             | 3745   | Stojanova, I.; et al.    | 7089   |
| Liskovec, O. A.; et al.   | 577    | Vekua, I. N.             | 5394   |
| Maergolis, I. D.          | (4651) | von Wolfersdorf, Lothar  | 7085   |

## A30 Biharmonic, polyharmonic functions and equations, Poisson's equation

- |                      |      |                        |      |
|----------------------|------|------------------------|------|
| Ogawa, Shiro; et al. | 7091 | Yotsuya, Ichis; et al. | 7091 |
| Saak, E. M.          | 2197 |                        |      |

## 31Bxx Higher dimensional theory

## B05 Harmonic, subharmonic, superharmonic functions

- |                          |           |                            |            |
|--------------------------|-----------|----------------------------|------------|
| Armitage, D. H.          | 575, 8868 | Kemper, John T.            | 2193       |
| Baxter, John R.          | 2191      | Kudina, L. S.              | 7086       |
| Bonami, A. A.            | 8866      | Kuran, U.                  | 2194, 2195 |
| Dumkin, V. V.; et al.    | 5913      | Lelong-Ferrand, Jacqueline | 5916       |
| Dzafarli, G. A.          | 2192      | Hakai, Mitsuru; et al.     | 2613, 2616 |
| Glasner, Moses; et al.   | 2613      | Hovrušov, A. A.            | 7087       |
| Graffer, L. B.           | 5912      | de la Pradelle, Arnaud     | 576        |
| Graffer, L. B.; et al.   | 5913      | Puts, Robert Byrne         | 7101       |
| Gusman, S. Ja.; et al.   | 5913      | Sario, Leo; et al.         | 2616, 5915 |
| Katz, Richard; et al.    | 2613      | Schiff, J. L.              | 2618       |
| Kawai, Kazumitsu; et al. | 5915      |                            |            |

## B10 Integral representations

- |              |      |
|--------------|------|
| Brawn, F. T. | 5388 |
|--------------|------|

## B15 Potentials and capacities, extremal length

- |               |      |                       |        |
|---------------|------|-----------------------|--------|
| Fuglede, Bent | 579  | Hogin, M. V.          | (7083) |
| Netuka, Ivan  | 3741 | Preobraženskii, S. P. | 5397   |

## B20 Boundary value and inverse problems

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| Erusalimov, E. Ja. | 7088       | Prilepko, A. I. | 8869 |
| Janusauskas, A.    | 3740, 5391 |                 |      |

## B25 Boundary behavior

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|-----------------|------|-------------------|------|
| Brown, F. T.    | 5384 | Rešetnjak, Ju. G. | 5746 |
| Dzafarli, G. A. | 8867 | Šaginjan, A. A.   | 5387 |

## B30 Biharmonic and polyharmonic equations and functions

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| Anikst, T. L.        | 2196       | Ospova, G. D.; et al. | 706             |
| Atahodjaev, M. A.    | 3927       | Polovinkina, V. I.    | 707, 7092       |
| Foht, A. S.          | 4142, 5385 | Prilepko, A. I.       | 582, 5386, 5392 |
| Kagan, F. B.; et al. | 706        | Samoflenko, I. S.     | 583             |

## 31Cxx Other generalizations

## C05 Harmonic, subharmonic, superharmonic functions

- |                  |      |
|------------------|------|
| Watanabe, Mineko | 3742 |
|------------------|------|

C10 *Pluriharmonic and plurisubharmonic functions* [See also 32F05.]

Pages, France 3738

C15 *Potentials and capacities*

Dellacherie, Claude 3744 Ito, Yoshifusa 7090  
Federer, Herbert 7025 Kapanadze, D.E. V. 5396  
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C25 *Dirichlet spaces*

Berg, Christian 870

C99 *None of the above, but in this section*

Čumakov, S. A.; et al. 7326 Kayano, Takasi; et al. 580  
Feyel, Denis; et al. 5400 McDonald, John W. 578  
Fukuman, H. A.; et al. 7326 Mokobodski, Gabriel 581  
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31D05 *Axiomatic potential theory*

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Hansen, W. 8870 Mustaj, P.; et al. 7093  
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32-XX *SEVERAL COMPLEX VARIABLES AND ANALYTIC SPACES*

-02 *Advanced exposition (research surveys, etc.)*

(Brooks, R. M.) \*5401 Several Complex Variables. 4585  
Hitotumatu, Sin 8871 II. Maryland 1970 4585  
(Horváth, John) \*585 Several complex variables 45401  
Proc. Internat. Conf. on Symposium on several complex variables 45401  
Several Complex Variables, Univ. of Maryland \*585

32Axx *Holomorphic functions of several complex variables*

A05 *Power series, series of functions*

Beljaev, V. A. 7094 Gromov, V. P. 7097  
Carlson, James A. 5417 Martineau, André 586, 589  
Dragilev, M. M.; et al. 3785 Rovickiĭ, A. K.; et al. 3785  
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A07 *Special domains (Reinhardt, Hartogs, tube domains, etc.)*

Aizenberg, L. A. 3750 Mesia, A. V.; et al. 3751  
Bergman, Stefan; et al. 7111 Nikiš, M. 5415  
Durbea, Jacob 3752 Odvirko-Budko, B. I.; et al. 3751  
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A10 *Holomorphic functions*

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A15 *Entire functions*

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A25 *Integral representation and residue theory*

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Cattabriga, Lamberto; et al. 7004 Rojek, Edzislav 5406  
De Giorgi, Ennio; et al. 7004 Trutnev, V. M.; et al. 590  
Mihailov, L. G. 5405

A30 *Other generalizations of function theory of one complex variable* [For functions of several hypercomplex variables, see 30A97.]

Džvarševič, A. G. (2176) Hahn, Kyong T. 7098  
Frazier, Arlene F. 2198 Masumi, Morisuke 591

A99 *None of the above, but in this section*

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et al. 4090 Peschl, Ernst; et al. 620  
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Grossette, Claire 5732, 5733 Reich, Ludwig; et al. 620  
Lazet, Daniel; et al. 4090

32Bxx *Local analytic geometry* [See also 13-XX and 14-XX.]

B15 *Analytic subsets of affine space*

Risler, Jean-Jacques 3754 Sadullaev, A. 3766

B99 *None of the above, but in this section*

Chae, Soo Bong 876

32Cxx *General theory of analytic spaces*

C10 *Complex manifolds* [For almost complex manifolds, see 53C15.]

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Graifer, L. B.; et al. 5408 Knjazeva, A. K.; et al. 5408  
Gusman, S. Ja.; et al. 5408

C15 *Complex spaces*

Katz, Nicholas M. (271) Spallek, Karlheinz 597

C25 *Analytic subsets and submanifolds*

Golovin, V. D. 8876 Ramis, Jean-Pierre \*2205  
Lin, V. Ja. 5404 Zinov'ev, B. S. 2199

C35 *Analytic sheaves and cohomology groups* [See also 18F20, 55B30.]

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Coen, Salvatore 3773 Prill, David 5411  
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Draper, Richard W. 5412 Sebastiani, M.; et al. 2201  
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C40 *Singularities*

Grauert, Hans 2206 Baito, Kyoji 3767

C99 *None of the above, but in this section*

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32Dxx *Analytic continuation*

D05 *Domains of holomorphy*

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Fujimoto, Hirotaka 593 Siciak, J.; et al. 592  
Shiffman, Bernard 598 Wermer, John 7480

D10 *Envelopes of holomorphy*

Tomasini, Giuseppe 7102

## D15 Continuation of analytic objects

Becker, Joe 7105

## D20 Removable singularities

Griffiths, Phillip A. 2202

## D99 None of the above, but in this section

Bony, Jean-Michael; et al. 5596a-b, 7241  
 Matsuo, Mario C. 2472  
 Fitzgerald, Carl H. 3756  
 Schapira, Pierre; et al. 5596a-b, 7241  
 Hunt, L. R. 5402

## 32Exx Holomorphic convexity

## E05 Holomorphically convex complex spaces, reduction theory

Ducourtieux, Jean-Louis 7107  
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 Moverraz, Philippe 3761

## E10 Stein spaces, Stein manifolds

Huckleberry, Alan T.; et al. 7106  
 Langmann, Klaus 3765  
 Mironberg, Ricardo; et al. 7106  
 Stout, E. L. 7110

## E20 Polynomial convexity

Alexander, Herbert 3757  
 Senickin, V. H. 3789

## E25 Algebras of holomorphic functions

Cnop, Ivan; et al. 4152  
 Ferrier, Jean-Pierre; et al. 4152

## E30 Holomorphic and polynomial approximation

Fesčiev, Iv. 7112  
 Sibony, Nessim 5421

## E99 None of the above, but in this section

Clayton, Dennis 9138  
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## 32Fxx Geometric convexity

## F05 Plurisubharmonic functions and generalizations (See also 31C10.1)

Lelong, Pierre 594

F10  $q$ -convexity,  $q$ -concavity

Knorr, Knut; et al. 2208  
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## F15 Pseudoconvex domains

Gruman, Lawrence; et al. 3759  
 Henkin, G. M.; et al. 2200  
 Kiselman, Christer O.; et al. 3759  
 Laville, Guy 3760  
 Romanov, A. V.; et al. 2200

## F99 None of the above, but in this section

Abrosimov, A. V.; et al. 5603  
 Mihailov, L. G.; et al. 5603  
 Zuhovickaja, E. S. 5820

## 32Gxx Deformations of analytic structures

## G05 Deformations of complex structures (See also 13D10, 16A58, 58H05.)

Kas, Arnold; et al. 3769  
 Schlesinger, Michael; et al. 3769  
 Wavrik, John J. 3770

## G15 Moduli of Riemann surfaces, Teichmüller theory (See also 30A46.)

Hubbard, John 3787

## 32Hxx Analytic mappings

## H05 Representative domains

Kato, Sadao; et al. 3763  
 Ozaki, Shigeo; et al. 3763

## H10 Bergman kernel function

Kerzman, Norberto 3762  
 Zinov'ev, B. S. 3764

## H15 Invariant metrics and pseudodistances

Lebed', B. Ja. 5407

## H25 Poincaré type theorems and generalizations

Kobayashi, Shoshichi; et al. 5418  
 Ochiai, Takushiro; et al. 5418

## H99 None of the above, but in this section

Harvey, F. R.; et al. 5409  
 King, J. R.; et al. 5409  
 Peschl, Ernst; et al. 620  
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## 32Jxx Compact analytic spaces (For Riemann surfaces, see 14Hxx, 30A46.)

## J05 Compactification

Morrow, James A. 8875

## 32Kxx Generalizations of analytic spaces

## K05 Banach analytic spaces (See also 58Bxx.)

Burghelen, Dan; et al. 1202  
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 Greenfield, Stephen J.; et al. 5420  
 Wallach, Nolan R.; et al. 5420

## K10 Banach-Riemannian analytic spaces

Bartenverfer, Wolfgang 8879  
 Langmann, Klaus 2207  
 Martineau, André 589  
 Monna, A. F. 44101  
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## 32Lxx Holomorphic fiber spaces (See also 55Fxx.)

## L05 Holomorphic fiber bundles and generalizations

Fujiki, Akira; et al. 3779, 3780  
 Gunning, R. C. 2730  
 Ibrahim, Jorga 6039  
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Jakubović, V. A.	3838	Teufel, Hugo, Jr.	3841
Jarošević, G. O.; et al.	3839	Urwinn, Kathleen M.; et al.	3859
Lorch, Lee; et al.	7165	Vonni, A. M.	7187
Los', G. A.	642	Vygoda, Ju. A.; et al.	3839
Loud, W. B.	5486	Zdanov, G. A.	5464
Malysev, Ju. V.	3840		

## 34Dxx Stability theory (See also 58F10, 93Dxx.)

## D05 Asymptotic properties, characteristic exponents

Beklemiševa, L. A.	663	Mahony, J. J.	7190
Brakema, B. L. J.	2271	Nakašima, Masaharu	8941
Burton, T.; et al.	2272	Oziraner, A. S.	5501
Bylov, B. F.	5494	Nadiszewski, B.; et al.	5496
Čekin, L. D.	3862, 5495, 7188	Stachurska, Barbara	3863
Grimmer, R.; et al.	2272	Trench, William F.	2274
Gutowski, R.; et al.	5496	Walker, Philip W.	667, 3864
Izobov, N. A.	2275	Willett, D.	2275
Kostin, A. V.	5497	Zarecki, M. V.	3865

## D10 Perturbations

Faerman, M.	674	Struble, R. A.; et al.	2278
Fatychov, F. F.	2277	Trench, William F.	7202
Harterson, H. C.; et al.	2278	Zarecki, M. V.	8951
Izobov, N. A.	8950	Zavaliscin, S. T.	2280

## D15 Singular perturbations

Boglaev, Ju. P.	8952	Žakupov, Ž. N.	3877
Manolov, Spasse	3874	Zeman, I.	675
Naumetko, B. G.	8953		

## D20 Liapunov stability

Borodavko, I. A.; et al.	3866	Piontkovskiy, A. A.; et al.	3866
Leighton, Walter	673	Rouche, N.	7197
Martinjuk, A. A.	(6192)	Zadorozny, V. F.	8949

## D99 None of the above, but in this section

Ballitov, M. A.	668	Martinjuk, A. A.; et al.	8945
Beljavskiy, S. S.	8942	Musseljan, A. G.	8946
Boiko, A. G.; et al.	8945	Neuman, F.	8947
Burganskaja, L. I.	8943	Nguyen Van Dao	3869
Čezilo, J. O. C.	7192	Oziraner, A. S.	5500
Gal'sun, I. V.	5499, 7193	Popov, Vasil	3870
Gawroński, Włodzimierz	8944	Pustyl'nikov, L. D.	3871
Gol'cer, Ja. M.	7194	Pyn, Ju. A.	7196
Hamer, K.; et al.	669	Ramancev, V. V.	7198
Jones, John, Jr.	670	Škrapek, W. A.; et al.	672
Kahane, Charles	3867	Smith, M. R.; et al.	669
Kalitocva, P.; et al.	7200	Stojanov, N. V.	3872
Krečev, G. S.	671	Treccani, Giulio	7199
Lalli, B. S.; et al.	672	Troch, Inge	8948
Los', G. A.	7195	Zaprjanov, Z.; et al.	7200
Martinjuk, A. A.	3868		

## 34Exx Asymptotic theory

## E05 Asymptotic expansions

Abgarjan, K. A.	8940	Kravickiy, A. O.; et al.	665
Beklemiševa, L. A.	2268, 2269	Lidaki, V. B.; et al.	665
Bojadiev, Georgi	2270	Medvedev, B. I.	2273
Grudo, Š. I.	7189	Pfeiffer, George W.	5498
Hallam, Thomas G.	664	Simonjan, S. G.	7191



## E10 Perturbations

Balbi, Jacques-Henri	5502	Pisarenko, V. G.	2279
Kartsatos, Athanasios G.	5503	Talpalanu, Pavel	7201

## E15 Singular perturbations, general theory

Cerneau, S.	7204, 7205	Korobeinikov, M. Ju.	3873
Hille, Einar	3875	Methuna, Diarmuid O.	3876

## E20 Singular perturbations, turning point theory, WKB-methods

Aripov, M. M.	3861	Watts, A. M.	5504
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## E99 None of the above, but in this section

Aris, R.; et al.	666	Mehta, B. N.; et al.	666
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## 34F05 Equations and systems with randomness (See also 60K05, 93Exx.)

Bunke, H.	7206	Wustrov, V. S.	3878
Preidin, M. I.; et al.	7207	Nazin, G. O.	5505
Kersjuk, V. I.; et al.	2281	Ventcel', A. D.; et al.	7207
Kolomféc, V. O.; et al.	677, 7281	Vul'pe, I. M.	678
Martinjuk, A. A.	676		
Mitropol'skij, Ju. O.; et al.	677		

## 34G05 Differential equations in Banach and other abstract spaces (See also 47Bxx.)

Aširov, S.	2291	Kovalenko, A. Ja.	2294
Attouch, Hedy	2540	Kreith, Kurt	2295
Barbu, Viorel	2541	Martin, Robert H., Jr.	7519
Baris, Ja. S.; et al.	3901	Melamed, E. Ja.	2296
Barkovskaja, N. V.	3902	Nazarov, P.; et al.	9133
Barston, E. M.	2292-2293	Perov, A. I.; et al.	9133
Burmann, Hans-Wilhelm	9134	Persidskij, S. K.	3903
Dafermos, Constantine M.	687	Pribovkina, N. L.; et al.	7231
Daševskij, A. I.	5522	Ramm, A. G.	5523
Fabry, C.	5832	Rothenberg, E. Ja.	689, 690
Podčuk, V. I.; et al.	3901	Sharma, R. R.	691
Fomin, V. H.	688	Slemrod, Marshall	5524
Hacić, O.	7230	Šolohovič, F. A.; et al.	7231
Hadžić, Olga	8966	Velliv, M. A.	2297
Helikili, Seppo	8967	Voropaeva, G. A.	8968
Ifantios, Evangelos K.	3019	Welch, John M.	4212

## 34H05 Control problems (See also 49-XX, 93-XX.)

Češkov, M. S.	(1018)	Hasritdinov, G.	3899
Karpenko, G. P.	5520	Nikol'skij, M. S.	7227
Naslov, Ju. N.	7226	Porter, William A.	7561
Nordubovič, B. Š.	5521	Seierstad, Atle	3900
Muharlamov, R. G.	8965	Zavalščin, S. T.	7228
Nyákov, S. K.	3898	Zubov, V. I.	7229

## 34Kxx Functional-differential equations with retarded arguments, functional-differential equations with deviating arguments

## K05 General theory

Ajašinov, M. M.	2285	Popov, A. M.	685
Blaž, Jan	3885, 3886	Popov, V. M.	5515
Cerneau, Simone	3887	Rudakov, V. P.	3895
Jagubov, M.; et al.	5517	Schmitt, K.; et al.	7218
Kurdanov, H. Ju.	2288	Svaricevskaja, N.	5516
Kurzev, Jaroslav	7216	Svaricevskaja, N.; et al.	5517
Magomedov, A. R.	3890	Zbořčík, E. A.	3897
de Nevers, K.; et al.	7218	Zitarosa, Antonio	5519
Wassbaum, Roger D.	3893	Zubko, Ju. I.	7225

## K10 Boundary value problems

Husein, Bensaid	5512	Savčenko, L. I.; et al.	7214
Kobjakov, I. I.	3888	Sfikas, Ioannis G.	7223
Kovač, Ju. I.; et al.	7214		

## K15 Qualitative theory

Cidylo, K. V.	5509	Melkumjan, D. O.	3892
Daševskij, A. I.	8960	Mitropol'skij, Ju. O.; et al.	683
Podčuk, V. I.; et al.	683	Mogov, V. R.	684
Grafton, R. B.	2286	Rašbaev, E. M.	3894
Johnson, Ernest F.; et al.	3896	Rožkov, V. I.	2290
Ladas, G.	681	Rožkov, V. I.; et al.	2264
Le suan Kan	682	Šamilov, A. M.	8963
Limanskiy, V. G.	2289	Seborg, Dale E.; et al.	3896
Magomedov, A. R.	3889	Sfikas, Ioannis G.	7222
Mawhin, J.	3891	Tolosa, E.; et al.	2264
		Vzovskij, D. A.	7224

## K20 Stability theory

Bačnov, D.; et al.	8959	Misnik, A. F.	7217
Cigankova, L. A.	7215	Pachpatte, B. G.	7219
Diamandiev, Vasil; et al.	5518	Schäffer, J. J.	686
Elbert, Á.	5510	Veber, V. A.	8964
Orebennikov, V. Ja.	680	Vesselinov, V.; et al.	8959
Hackvič, V. F.	2287	Zapranjanov, Zapranjan; et al.	5518

## K25 Asymptotic theory

Drotko, Tadeusz	8961
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## K99 None of the above, but in this section

Deo, S. G.; et al.	5513	Macaev, V. I.; et al.	5511
Gabasov, R.; et al.	8962	Minjuk, S. A.	5514
Gurarij, V. P.; et al.	5511	Palant, Ju. A.; et al.	5511
Krahovčok, V. V.; et al.	8962	Sadykhov, M. M.	7220
Kulesko, N. A.; et al.	5511	Ulashev, B.	7221
Ladde, G. S.; et al.	5513		

## 35-XX PARTIAL DIFFERENTIAL EQUATIONS

## -03 Historical

Babič, V. M.; et al.	(6560)	Solomjak, N. Z.; et al.	(6560)
Birman, M. Š.; et al.	(6560)	Ural'ceva, N. N.; et al.	(6560)
Janet, Maurice	(13)	(Zervos, P.)	(13)
(Ladyženskaja, O. A.)	(6560)	Biography:	
Smirnov, V. I.; et al.	(6560)	O. A. Ladyženskaja	(6560)

## 35Axx General theory

## A05 General existence and uniqueness theorems

Cinquini Cibrario, Maria	5545	Sattinger, D. H.	8969
Burikovič, Vladimir	692	Sokolov, P. V.	5525
Fränkel, L. E.	3904	Sugrin, S. M.	3905, 3906
Budaverviev, K. I.	693		

## A15 Variational methods

Temma, Roger	3907
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## A20 Analytic methods, singularities

Anderson, Karl Gustav	3908	Florian, H.; et al.	8970
Bauer, Karl Wilhelm	2298	Gilbert, Robert F.; et al.	2299
Colton, David; et al.	2299	Jank, G.; et al.	8970

## A22 Transform methods

Evans, Kenneth, Jr.; et al.	(828)	Jackson, E. Atlee; et al.	(828)
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## A25 Other special methods

Raimov, R.	5526
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## A30 Geometric theory, characteristics, transformations

Čerkasov, I. D.	2300	Ivriy, V. Ja.	7232
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## A35 Theoretical approximation to solutions

Anišenko, R. I.	694
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#### A40 Numerical approximation to solutions [For numerical analysis, see 65Mxx, 65Nxx, 65P05.3]

Gagau, M. B. (1406)

#### A99 None of the above, but in this section

Grado, B. I. 2245 Malyšev, Ju. V. 3840  
 Halilović, Hatidža M.; et al. 2235 Tušilin, A. A. 764  
 Malenica, Mirjana; et al. 2235

#### 35Bxx Qualitative properties of solutions

##### B05 Comparison theorems; oscillation, zeros and growth of solutions

Allegretto, W. 7233 Swanson, C. A. 3911  
 Dunninger, D. H. 3909, 8974 Travis, Curtis C.; et al. 3910  
 Kreith, Kurt; et al. 3910 Zachmanoglou, E. C. 8973

##### B10 Periodic solutions

Grebennikov, E. A.; et al. 7234 Šakibaliev, B. Š.; et al. 7234  
 Iooss, Gérard 962a-b Staude, Ulrich 3912  
 Jumarie, Guy 5529, 5530 Umbetzanov, D. U. 7235  
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##### B15 Almost periodic solutions

Alymkulov, K. 7236 Umbetzanov, D. U. 5533  
 Birolli, Marco 697 Zaidman, Samuel 3913  
 Palmieri, Giuliana 5528

##### B20 Perturbations

Lax, Peter D.; et al. 5531 Phillips, Ralph S.; et al. 5531

##### B25 Singular perturbations

Fife, Paul C. 5532 Šipačev, V. B. 8975

##### B30 Dependence of solutions on initial and boundary data, parameters

Murat, François (2552) Sansó, Fernando 8972

##### B35 Stability and control, boundedness [See also 93-XX.]

Brušin, V. A. 8976 Krein, S. G.; et al. 8978  
 Choquet-Bruhat, Yvonne 698 Hishimura, Masataro; et al. 7237  
 Fasano, Antonio 8977 Osipov, V. B.; et al. 8978  
 Gasanov, K. K. (5846) Pulvirenti, G. 5534  
 Inagaki, Shogo; et al. 7237 Selezov, I. T. 8979  
 Kitamura, Shinzo; et al. 7237 Serdjukova, S. I. (1401)

##### B40 Asymptotic behavior of solutions

Barenblatt, G. I.; et al. 5535 Lions, Jacques-Louis 2303a-c  
 Buslaev, V. S. 2302 Puhnaev, V. V. 699  
 Dafermos, Constantine M. 5536 Škil', M. I.; et al. 5537  
 Frank, L. S. 2348 Tušilin, A. A. 7238  
 Grigorenko, V. K.; et al. 5537 Zel'dovič, Ja. B.; et al. 5535  
 Ivancov, M. I. 3914

##### B45 Differential inequalities, a priori estimates

Beirão da Veiga, Hugo; et al. 5538 Lions, J. L. 5539  
 Damonte, Vincenzo 7239 Newman, James M. 5540  
 Dias, João-Paulo; et al. 5538 Snow, Donald B. 7240  
 Ferro, Francesco 695 Bobolevskaja, A. 3915  
 (Kamenostskaja, S. L.) 5539

##### B99 None of the above, but in this section

Kosmodem'janskij, A. A., Jr. 5527 Simonenko, I. B. 4218

#### 35Cxx Representations of solutions

##### C10 Series solutions, expansion theorems

Tušilin, A. A. 7238

#### C15 Integral representations

Colton, David 7258 Kreyszig, Erwin 746  
 Colton, David; et al. 2299 Maslov, M. I. 5548  
 Gilbert, Robert P.; et al. 2299 Watzlawek, W. 8971  
 Guliev, V. A. 7287

#### C99 None of the above, but in this section

Grigorenko, V. K.; et al. 5537 Škil', M. I.; et al. 5537

#### 35Dxx Generalized solutions

##### D05 Existence of generalized solutions

Cereso, A.; et al. 7751 Rouvière, P.; et al. 7751  
 Pogorelov, A. V. 2305

##### D10 Regularity of generalized solutions

Bernardi, Marco Luigi 7245 Tartakoff, David S. 5543  
 Pogorelov, A. V. 2304 Uspenskij, S. V. 8984  
 Shimakura, Norio 7246 Widman, Kjell-Ove 5544  
 Starb, Jann 8983

##### D99 None of the above, but in this section

Bony, Jean-Michel; et al. 7241 Kolodij, I. M. 8980  
 Fenyő, István; et al. 7242 Kovříkin, V. V. 8981  
 Infantino, Roberto 7243 Schapira, Pierre; et al. 7241  
 Kawai, Takahiro 7244 Schmidt, Adam; et al. 7242

#### 35Exx Equations and systems with constant coefficients (See also 35N05.)

##### E05 Fundamental solutions

Ahmedov, Š. A. 702

##### E10 Convexity properties

Unterberger, André 7254

##### E99 None of the above, but in this section

Ahmedov, Š. A. 5552 Gromov, V. P. 7251  
 Andersson, Karl Gustav 8986 Kasimov, F. A. 5553, 5554  
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 Bengel, Gunter 3923 Mas'ja, V. G.; et al. 974  
 Cattabriga, Lamberto 8987 Unterberger, André 7255  
 Gel'man, I. V.; et al. 974

#### 35Fxx General first order equations and systems

##### F05 Linear equations and systems, general

Valšev, K. G. 7247

##### F20 Nonlinear equations and systems, general

Andrejanov, P. A. 3918 Rybovskij, B. B. 2306  
 Benton, Stanley H., Jr. 7248 Furioli Martinolli, Antonella 2307

#### 35Gxx General higher order equations and systems

##### G05 Linear equations and systems, general

Hörmander, Lars 3917

##### G15 Boundary value problems for linear equations and systems

Zamalov, Z. Š. 5529

## G30 Boundary value problems for nonlinear equations and systems

Mamedov, A. F. 750

## 35H05 Hypoelliptic equations and systems

Arcangeli, Rami 5566 Kato, Yoshio 7271  
 Baouendi, M. S.; et al. 5567 Świątek, H. 7335  
 Goulaouic, C.; et al. 5567 Treves, François 5569, 5570  
 Greenfield, Stephen J.; et al. 5568 Wallach, Nolan R.; et al. 5568

## 35Jxx Elliptic equations and systems

## J05 Laplace's equation, reduced wave equation (Helmholtz), Poisson's equation

Babić, V. M. 2333 Pisarenko, V. G. 7299  
 Colton, David 3953 Pyrkina, M. F. 3954  
 Hruslov, E. Ja.; et al. 7298 Radzabov, N. 3955, 3956  
 Kotljarov, V. P.; et al. 7298 Tursanov, M. 736  
 Merigot, Michel 735 Wen, Shih-liang (9586)

## J10 Schrödinger operator [See also 47A0.]

Babić, V. M.; et al. 9012 Pastur, L. A. 5818  
 Barkovski, V. V. 972 Phillips, Ralph S.; et al. 5594  
 Danilov, Ju. P.; et al. 9012 Poljanskij, B. A. 5595  
 Eastham, M. S. P. 5593 Schmincke, Upke-Walther 7306  
 Kanellopoulos, E. J.; et al. 5436 Simon, Barry 3967  
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Copson, E. T. 3924 Lions, J. L. 2313  
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 Edmunds, D. E.; et al. 7269 Oskolkov, A. P. 5565  
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## J25 Second order equations, boundary value problems

Abbasov, A. T. 709 Diaz, J. B.; et al. 2317  
 Ahmedova, G. T. 710 Förste, J. 8989  
 Bokov, A. G. (9510) Genčev, Todor 5559  
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## J30 Higher order equations, general

Atahodjaev, M. A. 3927 Kagan, P. B.; et al. 706  
 Colton, David 7258 de Lucia, Paolo 7260  
 Dončev, T. 3928 Osipova, G. D.; et al. 706  
 Dubinsky, E.; et al. 7259 Pletneva, T. G.; et al. 3929  
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 Gurov, S. V. 5734 Widman, Kjell-Ove 5556  
 Hussein, T.; et al. 7259

## J35 Higher order equations, variational problems

Glaquinta, Mariano 696

## J40 Higher order equations, boundary value problems

Baouendi, M. S.; et al. 3932 Mas'ja, V. G. 7265  
 Cordes, H. O. 1198 Minskij, V. Ja. 5561, 5562  
 Dybov, P. T. 7263 Parenti, Cesare 8991  
 Geymonat, G.; et al. 3932 Roitberg, Ja. A.; et al. 3916  
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## J45 Systems, general

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Grubb, Gerd 7525 Ševčenko, V. I. 3934, 3935  
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## J65 Nonlinear boundary value problems for linear equations and systems

Cushing, J. M.; et al. 7268 Dunninger, D. R.; et al. 7268  
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## J70 Equations and systems of degenerate type

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## J99 None of the above, but in this section

Antonevič, A. B. 5808 Gurov, S. V. 9119  
 Bagirov, L. A. 5809 Lo, Chi Yeung; et al. 7264  
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## 35Kxx Parabolic equations and systems

## K05 Heat equation

Aliev, G. G. 3968 Rafalaki, P. 2335  
 Bluman, George W.; et al. 2334 Sabodaš, P. F.; et al. 741  
 Čeban, V. G.; et al. 741, 3969 Sherman, B. 2336  
 Cole, Julian D.; et al. 2334 Sierpiński, Kazimierz 3972  
 Ivanov, T. F. (8145) Sučevan, V. G.; et al. 3969  
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 Katekov, E. A. 740 Uglanov, A. V. 5819  
 Kemper, John T. 3971 Wake, G. C. 3973  
 Knowles, James K. 7307 Widder, D. V. 3974

## K10 Second order equations, general

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 Chabrowski, J. 726 Kamynin, L. I. 5583  
 Coraev, Ja. M. 728 Kamynin, L. I.; et al. 3945  
 Gudjev, A. H. 8999 Oskolkov, A. P.; et al. 5564  
 Himcenko, B. N.; et al. 3945 Šatyro, Ja. I. 727  
 Ivanov, A. V. 2318 Zauderer, Erich 7274  
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## K20 Second order equations, boundary value problems

Anderssen, R. S. 3947 Ivanov, A. V. 5586  
 Chan, C. Y. 5584 Marino, Mario 2330  
 Guščin, A. K. 3948 Solonnikov, V. A. 5587  
 Hamraev, K. 5585

## K25 Higher order equations, general

Mamedova, B. S. 9000

## K30 Higher order equations, initial value problems

Guenther, Ronald 7249

## K35 Higher order equations, boundary value problems

Čin' Kuang 7285, 7286 Proka, D. V. 731  
 Iskenderov, A. D. 729 Rektorys, Karel 7289  
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## K40 Systems, general

Gorškov, A. I. 3946 Guliev, V. A. 7287



## K50 Systems, boundary value problems

Mamedov, N. M. 730

## K55 Nonlinear equations and systems

Kernochi, Nobuyuki 2329 Ventcel', T. D. 9001

## K60 Nonlinear boundary value problems for linear equations and systems

Dubinskii, Ju. A.; et al. 9002 Nesterov, B. P.; et al. 9002

## K99 None of the above, but in this section

Džuraev, T. D. 2328 Lenjuk, M. P. 3949

## 35Lxx Hyperbolic equations and systems

## L05 Wave equation

Abdrahamanov, M. A. 5590  
 Babič, V. M. 3957, 5591  
 Blagoveščenskii, A. S. 7300  
 Broer, L. J. F.; et al. 3958  
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Mališev, I. G. 3960  
 Mamatkulov, H. 3961  
 Morawets, C. S.; et al. 3962  
 Balston, James V. 3963  
 Russell, David L. 3964  
 Schonbek, Tomas P. 7528  
 Seet, L. T. C.; et al. 7301  
 Strauss, W. A.; et al. 3962  
 Tosaki, Yoshiharu 9010  
 Vesnickii, A. I. 7305  
 Vostrova, L. E. 9011  
 von Wahl, Wolf 3965  
 Zauderer, Erich 3966

## L10 Second order equations, general

Brjuchanov, V. A. 7272  
 Furioli Martinolli, Antonella 3943  
 Gasanov, K. K. 8992  
 Gol'dberg, V. N. 3938  
 Kano, Tadayoshi 5571  
 Kuliev, M. A. 3939

Lar'kin, N. A. 5572  
 Santagati, G. (4249) 716  
 Saut, Jean-Claude 717, 3940  
 Tufiliev, A. T. 7273  
 Wünscher, V. 7274  
 Zauderer, Erich 7274

## L15 Second order equations, initial value problems

Ivrii, V. Ja. 2321

## L20 Second order equations, boundary value problems

Agemi, Rentaro 3941  
 Bagdov, A. G. 5578  
 Blagoveščenskii, A. S. 7278  
 Bruno, Teresa 3942

Fichera, Gaetano 7280  
 Mahusev, A. M. 8997  
 Mosov, V. A. 8996  
 Pozzi, Gianni A. 722

## L25 Higher order equations, general

Černyšov, G. L. 5573  
 Ohya, Yujiro 7275

Feyser, Gideon 7276

## L30 Higher order equations, initial value problems

Ahmedov, Š. A. 718 Lopatinskiĭ, Ja. B. 719

## L35 Higher order equations, boundary value problems

Beals, Richard 7277  
 Dubinskii, Ju. A. 2324  
 Filatov, A. I.; et al. (6273) 5581  
 Godunov, S. K.; et al. 7281  
 Hamraev, K.; et al. 7282  
 Ivanov, V. P. (8139) 2327  
 Ladyženskaja, O. A. (2979) 7281

Maksudov, F. G.; et al. 7282  
 Morawets, Cathleen S. (4739) 5581  
 Ptátník, B. I. 5581  
 Rauch, Jeffrey 5582, 7284  
 Santoro, Paolo 2327  
 Solov'ev, G. V.; et al. (6273) 7281  
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## L40 First order systems, general

Conner, Howard E. 2322  
 Homa, G. P.; et al. 2323  
 Kasahara, Koji 8994

Kogan, B. L. 5575  
 Kolomišev, V. G.; et al. 2323  
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## L50 First order systems, boundary value problems

Massey, Frank J., III 7283

## L55 Higher order hyperbolic systems

Delcambre, Alexandre 8993 Meredov, M. 5576

## L60 Nonlinear equations and systems, general

Clements, John C. 724  
 Deavours, C. A. 5579  
 Gol'dberg, V. N. 5574

Guseinov, M. M. 8998  
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## L65 Conservation laws [See also 76Axx.]

Byhovskii, E. B. 723 Dafermos, Constantine M. 5536

## L99 None of the above, but in this section

Borok, V. M. 7279  
 Chazaraig, Jacques 2308  
 Đurković, V. 5580

Koval'čik, I. M. 2325  
 Murthy, M. K. Venkatesha 2310  
 Madžafov, H. M. 5546

## 35M05 Equations and systems of mixed type (Tricomi, etc.) (For degenerate types, elliptic, see 35Jxx, hyperbolic, see 35Lxx, etc.)

Baburin, Ju. S. 732  
 Baigusin, F. Š. 2331  
 Bergman, Stefan 9003  
 Bicadze, A. V. 9004  
 Celebi, A. Okay 7308  
 Didenko, V. P. 7290  
 Džuraev, T. D.; et al. 5588  
 Eysin, V. I. 7291  
 Gubaĭdullin, K. A. 9005  
 Gvazava, D. K. 7292  
 Karatoprakliev, G. D. 7293, 7294  
 Korajuk, V. I. 3950  
 Mamatkulov, A.; et al. 3951  
 Melent'ev, B. V. 7295

Mihaĭlov, K. I. 733  
 Murtašev, D. 734  
 Mahusev, A. M. 3952  
 Mahusev, A. M.; et al. 7296  
 Mosov, V. A. 9006  
 Paškovskii, V. I.; et al. 7296  
 Salahitdinov, M. Š.; et al. 2332, 5588, 7297  
 Samatov, T. S.; et al. 2332  
 Sorokina, N. G. 9008  
 Tagiev, F. A.; et al. 3951  
 Tolipov, A.; et al. 7297  
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## 35Nxx Overdetermined systems

## N10 Variable coefficients, general

Solonnikov, V. A. 713

## N15 3-Stream problem and generalizations; formal complexes [See also 58005.]

Henkin, G. M. 3753  
 Henkin, G. M.; et al. 2200  
 Kohn, J. J. 7753

Romanov, A. V.; et al. 2200  
 Viguf, Jean-Pierre 3783, 3784

## N99 None of the above, but in this section

Abrosimov, A. V.; et al. 5603  
 Mihaĭlov, L. G.; et al. 5603

Zuhovickaja, E. S. 5820

## 35Pxx Spectral theory and eigenvalue problems [See also 47Axx, 47Bxx, 47F05.]

## P05 General spectral theory

Alimov, Š. A.; et al. 7522  
 Böhme, Reinhold 2542  
 Chambré, Paul L.; et al. 3976  
 Dean, Edward T.; et al. 3976  
 Golicev, I. I. 4213  
 Grönes, Wolfgang 748  
 Grubb, Gerd 7526

Guliev, V. A. 5607  
 Il'in, V. A.; et al. 7522  
 Rosenbljum, G. V. 4216  
 Šubin, M. A. 7529  
 Vaĭnberg, B. R. 7530  
 Wong, Pui-kei 3979

## P10 Completeness of eigenfunctions, eigenfunction expansions

Aĭl'diev, A. I. 9016  
 Dikarev, V. A.; et al. 7316  
 Kravcenko, V. F.; et al. 7316

Randol, Burton 5699  
 Saakjan, R. S. 7162, 7163

## P20 Asymptotic distribution of eigenvalues and eigenfunctions

Maruo, Kenji; et al.	752	Tanabe, Hiroki; et al.	752
Semenov, B. N.	3977		

## P25 Scattering theory [See also 47A40.]

Buslaev, V. S.	2524	Šabat, A. B.	5577
Colton, David	5589	Schulenberg, John R.; et al.	4217
Deŭ, V. G.	2533		
Goldstein, Charles	5815	Shenk, Norman; et al.	3978
Lax, Peter D.; et al.	5531, 5594	Thoe, Dale; et al.	3978
Miznik, L. P.	5817	Wilcox, Calvin H.; et al.	4217
Phillips, Ralph S.; et al.	5531, 5594		

## P99 None of the above, but in this section

Babić, V. M.	5606	Ljašenko, I. M.	7329
Bacouendi, M. S.; et al.	7523	Mamedov, A. P.	750
Bratus, A. S.	5810	Mangeron, D.; et al.	751
Deavours, C. A.	5570	Ōeda, Kazuo	5609
Goulaouic, C.; et al.	7523	Ōkustōreli, M. M.; et al.	751
Kasumov, R. K.	5608	Suzuki, Kazumasa	5610
Lando, Ju. K.	2534		

## 35Qxx Special equations and problems [See also 35J05, 35K05, 35L05.]

## Q05 Euler-Poisson-Darboux equation and generalizations

Jakovlev, G. H.	5741	Rhee, H.	2339
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## Q10 Navier-Stokes equation [See also 76D05.]

Dyer, R. H.; et al.	5599	Muratori, Paolo	5604
Edmunds, D. E.; et al.	5599	Oskolkov, A. P.	7314
Foias, Ciprian	973	Sauer, Niko; et al.	7310
Fujita, Hiroshi; et al.	7310	Stuart, Charles A.	7315
Judović, V. I.	744		

## Q15 Riemann-Hilbert problems [See also 30A88, 31A25.]

Igl'ikov, A.	7312		
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## Q99 None of the above, but in this section

Asadova, M.	2337	Guillemot-Teissier, Marianne	4214
Asencott, Robert	754		
Berger, Melvyn S.	9014	Kečkić, Jovan D.	745
Bony, Jean-Michel; et al.	5596a-b	Korobeŭnik, Ju. F.; et al.	5816
Carroll, Robert; et al.	462	Kostin, V. M.	3975
Celebi, A. Okay	7308	Kreyzig, Erwin	746
Cohon, D. K.	5811	Kul'ko, I. P.	9015
Colton, David	742	Kul'ko, V. F.; et al.	9015
Cooper, J. M.	993	Matsuzawa, Tadato	747
Copson, E. T.	7309	Mimura, M.; et al.	7313
Demcenko, T. I.; et al.	5816	Morimoto, Hiroko; et al.	5814
Derridj, Makhlouf; et al.	5597	Nakano, A.; et al.	7313
Dobenko, M. L.	5598	Menikytė, E.	2338
Dubinskii, Ju. A.	994	Schapira, Pierre; et al.	5596a-b
Frankl', F. I.	5600-5602	Silver, Howard; et al.	462
Fried, Jean	743	Simionescu, Claudia	5605
Fujita, Hiroshi; et al.	5814	Sova, Miroslav	1000
Gatignol, Philippe	7311	Temam, R.	1002
		Zully, Claude; et al.	5597

## 35Rxx Miscellaneous topics [For equations on manifolds, see 58Gxx; for manifolds of solutions, see 58Bxx; for stochastic PDE's, see 60H15.]

## R05 Equations with discontinuous coefficients or data

Abdrhmanov, M. A.	5549	Lorenzi, Alfredo	5550
Eklund, Neil A.	2311	Hovrušov, A. A.	5551

## R10 Difference-partial differential equations, equations with time lag

Aleskerov, A. G.	7319	Gasanov, K. K.	7321
Balla, E. E.; et al.	3980	Markus, I. I.; et al.	3980
Borok, V. M.	7318	Škil', M. I.; et al.	7320
Borok, V. M.; et al.	7317	Sotničenko, N. A.	5611
Dobrovskii, V. A.	2340	Sotničenko, N. A.; et al.	7320
Peščenko, S. F.; et al.	7320	Thac, B. P.	2341
		Zitomirskii, Ja. I.; et al.	7317

## R20 Operator equations, general [See also 34G05, 47A50, 47H15.]

Bobisud, L.; et al.	3981	Fadeeva, E. A.; et al.	3982
Broudicou, Claude	2502	Hersh, R.; et al.	3981
Carroll, R.; et al.	5612	Ibragimov, S. I.; et al.	7323
Cooper, Jeffery M.	7322	Imailov, D. A.; et al.	7323
Dalek'ii, Ju. L.; et al.	3982	Mazumdar, T.; et al.	5612
Donaldson, J. A.	753	Showalter, R. E.	2342
Dubinskii, Ju. A.	5812		

## R99 None of the above, but in this section

Chazarain, Jacques	2308	Maria, N. L.	8985
Cinquini Cibrario, Maria	5545	Maslennikova, V. H.	7250
Deimling, Klaus	700	Moriakov, V. V.	4215
Fattorini, H. O.	2309	Murthy, M. K. Venkatesha	2310
Galautdinov, I. G.	7463	Nadzafov, H. M.	5546
Guenther, Ronald	7249	Ōuchi, Sunao	7465
Iohvidović, N. Ju.	3919	Persson, Jan	5547
Kabulov, R.	701	Rasulov, M. L.	5548
Levin, P. E.	3920, 3921	Roitburd, V. L.	2536
Lions, J. L.; et al.	4975	Wolfe, Peter	991
Magenes, E.; et al.	4975		

## 35Sxx Pseudodifferential operators [See also 47Q05.]

## S05 General theory

Bleher, P. M.; et al.	5829	Gruišin, V. V.	5542
Calderón, Alberto P.; et al.	7532	Rabinovič, V. S.	5825
Ching, Chin-hung	5823	Vaillancourt, Rémi; et al.	7532
Egorov, Ju. V.	5541	Višik, M. I.	5828
Ellis, David	7534	Višik, M. I.; et al.	5829

## S15 Boundary value problems

Čan Zui Ho; et al.	7533	Kovalenko, I. A.; et al.	3916
Šakin, G. I.; et al.	7533	Roitberg, Ja. A.; et al.	3916
Komeč, A. I.	8982		

## S99 None of the above but in this section

Kumano-go, Hitoshi	984	Shinkai, Kenzo; et al.	985
Nagase, Michihiko; et al.	985	Sjōstrand, Johannes	989
Neri, Umberto	4226	Tel'ner, K.	5799

## 39-XX FINITE DIFFERENCES AND FUNCTIONAL EQUATIONS

## A05 Finite differences, general

Ljašenko, I. M.	3987, 5613, 7329		
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## A10 Difference equations

Berkovič, L. M.	9017	Prikazčikov, V. G.	9021
Botashev, A. I.; et al.	755	Raghavacharyulu, I. V. V.; et al.	7115
Bykov, Ja. V.; et al.	755		
Demidovič, V. B.	7324	Rumak, Tadeusz	9022
Frank, L. S.	2348	Saka, E. V.	2344
Heller, Sidney	2343	Shannon, A. G.; et al.	7325
Horadam, A. F.; et al.	7325	Šimanov, S. N.; et al.	2345
Kageeva, M. I.; et al.	2345	Smith, Russell A.	3983
Kečkić, Jovan D.	9018	Tanaka, Sen-ichiro	2346
Makarov, V. L.	9019	Tekumalla, A. R.; et al.	7115
Mambriani, Antonio	756	Trušina, L. I.	3988-3990
McAllister, G. T.	9020	Udovičič, Enes	2347
Pachpatte, B. G.	7331	Wimp, Jet	(2947)

## A15 Functional equations, general [For functional-differential equations, see 34Jxx.]

Chocsevski, Bogdan	2351	Matkowski, Janusz	3993, 2354, 2355, 9023
Prolov, Ju. H.	2284		
Giesy, Daniel P.	7333	Melkumjan, D. O.	3892
Golab, S.	4336	Ng, E. W.; et al.	760
Gromov, V. P.	7251	Saffren, M. M.; et al.	760
Haruki, Hiroshi	759, 7334	Schwarz, Gideon	2105
Kannappan, P.; et al.	2353	Šnajdor, W.; et al.	3992
Kordylewski, Jerzy	3991	Świątek, H.	7335
Kuczma, M.; et al.	3992	Vajzovič, Fikret	2356
Kurepa, S.; et al.	2353	Zitarosa, Antonio	5519

## A25 Linear and multilinear functional equations

Głowacki, Eugeniusz 758

## A30 Functional equations in several variables, systems

Begališvili, G. M.	757	Lundberg, Anders	761
Darócsy, Zoltán	2352, 2357, 7000	McKiernan, M. A.	762
Haruki, Hiroshi	7336	Miller, J. B.	2359
Howroyd, T. D.	7337	Świątek, Halina	763
Indrei, V.	3994	Tuzilin, A. A.	764
Klebanov, L. B.	2358		

## A35 Matrix functional equations

Kucharszewski, Mięczyński 5144

## A40 Functional equations on abstract structures

Aczél, J.	765	Kannappan, P. I.; et al.	5615, 7338
Baker, J. A.; et al.	5615	Laube, G.; et al.	7340
Baker, John A.	2360	Pfanzagl, J.	7339
Gheorghiu, Octavian Em.	5614	Pfanzagl, J.; et al.	7340
Horinouchi, Sōichi; et al.	7338	Świątek, Halina	766
Kannappan, P. I.	3995, 5616		

## 40-XX SEQUENCES, SERIES, SUMMABILITY

## 40Axx Convergence and divergence of infinite limiting processes

## A05 Convergence and divergence of series and sequences

Drummond, J. E.	3998	Segal, S. L.	5617
Dubrovsky, V. M.	767	Tret'jakov, V. P.	7341
Lahiri, B. K.	9024	Udovičić, Enes	2347
Milovidova, I. P.	2363	Williams, Kenneth S.	3997
Hey, Andrei	7342		

## A20 Convergence and divergence of infinite products

Brignon, Pierre (8663)

## A25 Approximation to limiting values (summation of series, etc.) [For the Euler-Maclaurin summation formula, see 65B15.]

Stark, E. L. 3996

## A99 None of the above, but in this section

Davies, Roy O.	6985	Introducing young people	
(Janić, Radovan R.)	(46554)	to scientific work	(46554)
Tesin, A. M.	6989		

## 40B05 Multiple sequences and series

Baron, S. A.	4002	Ogieveckij, I. I.	3999
Beljaev, V. A.	7094	Sul'gina, L. T.	2362
Kalatalova, M. A.	5622	Trutnev, V. M.	(8874)
Kiplani, G. G.	772		

## 40Cxx General summability methods

## C05 Matrix methods

Bazinet, J.; et al.	4003	Maddox, I. J.	7347
Beckmann, Wolfgang	2364	Peasche, I.	5148
Chandrasekhara Rao, K.	9005	Siddiqi, J. A.; et al.	4003
Jürimäe, E.	7343	Tonne, Philip C.	4007
Kuttner, B.	2366	Vichmann, F.	5303

## C10 Integral methods

Das, G. L. 5621

## C15 Function theoretic methods (including power series methods and semicontinuous methods)

An, F. I.; et al.	(775)	Skerry, H. B.	770
Indlekofer, Karl-Heinz	4009	Sledd, W. T.; et al.	4005
Kurts, J. C.; et al.	4005	Subhankulov, M. A.; et al.	(775)

## C99 None of the above, but in this section

Mohanty, R.; et al.	5620	Saffren, M. M.; et al.	760
Ng, E. W.; et al.	760	Skvorcov, V. A.	7385
Ray, B. K.; et al.	5620		

## 40Dxx Direct theorems on summability

## D10 Tauberian constants and oscillation limits

Jukes, K. A.	773	Sherif, Soraya	4013
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## D15 Convergence factors and summability factors

Das, G.	2365	Ram, Siya	7344
Lal, Shiva Narain	(4006)	Tasković, Milan R.	4001
Martić, Branislav	5619		

## D20 Summability and bounded fields of methods

Kuttner, Brian; et al.	5618	Thorpe, Brian; et al.	5618
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## D25 Inclusion and equivalence theorems

Bustoz, Joaquín; et al.	4000	Ramanujan, M. S.; et al.	2371
Dubinsky, Ed; et al.	2371	Wright, Donald; et al.	4000
Hudak, Ju. I.	768		

## D99 None of the above but in this section

Kangro, G.	2372, 4004
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## 40E05 Tauberian theorems

An, F. I.; et al.	775	Shawyer, Bruce L. R.; et al.	2369
Diamond, Harold G.	4012	Subhankulov, M. A.; et al.	775
Kalatalova, M. A.	(5622)	Tietz, Hubert	2370
Kvee, B.	7346	Yang, G. S.; et al.	2369
Mel'nik, V. I.	774		

## 40F05 Absolute and strong summability

Das, G.	2365	Mazhar, S. M.	(4010)
Dubinsky, Ed; et al.	(2371)	Ram, Siya	(7344)
Körle, Hans-Heinrich	(2368)	Ramanujan, M. S.; et al.	(2371)
Lal, Shiva Narain	4006		

## 40Gxx Special methods of summability

## G05 Cesàro, Euler, Nörlund and Hausdorff methods

Banerjee, C. R.	7345	Luh, Wolfgang	(8812)
Davydov, N. A.	4008	Mazhar, S. M.	4010
Goes, Günther	9027	Muldoon, M. E.	(9042)
Idel's, L. V.	9029	Sherif, Soraya	(4013)
Ishiguro, Kazuo	9025	Trautner, Rolf	42367
Körle, Hans-Heinrich	2368	Varshney, R. G.	9028
Kvee, B.	771		

## G10 Abel, Borel and power series methods

Luh, Wolfgang	(511)	Miskeleričius, A.	(5672)
Mel'nik, V. I.	(774)	Shawyer, B. L. R.	(769)

## G99 None of the above, but in this section

Idel's, L. V.	4011
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## 40H05 Functional analytic methods in summability

Bennett, Grahame 776, 5623 Ugulava, D. K. (9045)  
 Carling, D. J. H.; et al. 4014 Wilansky, A.; et al. 4014  
 Skvorcova, M. 777

## 40J05 Summability in abstract structures [See also 43A55.]

Buntinas, Martin 4088 Nguyen Phuong Cúc 5719  
 Ceresis, V. M. 4089 Tönno, M. 805  
 Crone, Laurence 2503 Whitley, Robert 4173  
 Melencov, A. A. 9091, 9092 Wilansky, Albert 2453

## 41-XX APPROXIMATIONS AND EXPANSIONS [For all approximation theory in the complex domain, see 30A80 and 30A82; for all trigonometric approximation and interpolation, see 42A08, 42A12.]

## -02 Advanced exposition (research surveys, etc.)

Bacopoulos, A.; et al. 7348 Cheney, E. W.; et al. 7348

## A05 Interpolation [See also 42A12 and 65D05.]

Birkhoff, Garrett 9030 Pospelov, V. V. 778  
 Claret, Philippe G.; et al. (9446) Rabkin, E. L.; et al. 4015  
 Haugsmann, Werner 7349 Raviart, Pierre-Arnaud; et al. (9446)  
 Kuratov, V. A. (6011) Šapiro, E. F.; et al. 4015  
 Leus, V. A. 788 Vértesi, P. O. H. 5631, 9039  
 Marušćić, I. (7027) Vlasovec, M. M. 7350  
 Păvăloiu, I. 9031 Voronovskaja, E. V. 4016, 4017

## A10 Approximation by polynomials [For approximation by trigonometric polynomials, see 42A08.]

Berens, Hubert; et al. 5638 Levina, M. 2374  
 Daugavet, I. K.; et al. 4018 Lorentz, George G.; et al. 5638  
 Freud, Geza 2373 Nguyen Tu Than 9033  
 Gmelin, T. W. 9145 Ostolkov, K. I. 4021  
 Grebenjuk, D. G. (4643-4644) Rafal'son, S. Z.; et al. 4018  
 Leont'ev, A. F. 4019 Tesler, G. S. (4600)

## A15 Spline approximation

Ahlberg, J. H.; et al. 782 Nilson, E. B.; et al. 782  
 Atteia, Marc 5640 Reinsch, Christian H. (4598)  
 Braess, Dietrich (7920) Richards, Franklin 4026  
 Delvos, P.-J.; et al. 9034 Schempp, Walter; et al. 9034  
 Galkin, P. V. 783 Smoljak, S. A. (6115)  
 Goncar, A. A. 7351 Subbotin, Ju. H. 7365  
 Korobkova, M. B. 9036 Velikin, V. L. 9037  
 Kozak, Jernej 787

## A20 Approximation by rational functions

Ėberman, I. I. 780 Goncar, A. A. 4022  
 Freud, G. 781 Ivanov, L. D. 4023

## A25 Rate of convergence, degree of approximation

Bljumin, S. L.; et al. 799 Kotljars, B. D.; et al. 799

## A30 Approximation by other special function classes

Belford, Geneva G.; et al. 5626 Jaramedov, G. Ja. 785  
 Burenkov, V. I. 2462, 2463 Kaufman, E. H., Jr.; et al. 5626  
 Demčenko, A. G. 5625 Lann, A. A. 7352  
 Forst, Wilhelm 4225 Ėginjan, A. A. 2375  
 Gavriljuk, V. E.; et al. 4038 Stepanec', O. I.; et al. 4038

## A35 Approximation by operators (in particular, by integral operators)

Felbecker, Günter; et al. 789 Leviatan, D. 5632, 7354  
 Guliev, B. B. 4027 Lupag, Luciana 5627  
 Guseinov, G. A. 7353 Moldovan, Gr. 791  
 Kis, O.; et al. 5629 Morosov, V. A. 5633  
 Kudrjavcev, G. I. 790 Schempp, Walter; et al. 789

Vértesi, P. O. H. 5630 Veselinov, V. M. 2376  
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## A40 Saturation classes

Kolbe, W.; et al. 796 Bessel, R. J.; et al. 796  
 Matanson, G. I.; et al. 9047 Ėuk, V. V.; et al. 9047

## A50 Best approximation (Čebyšev, etc.)

Ahlov, V. A. et al. 4028 Karlin, Samuel 786  
 Agahyan, S. A.; et al. 4028 Kornifuk, M. P. 5636  
 (Arzanyh, I. S.) 4792 Koromilčenko, V. D. 2379, 7359  
 Babaev, M.-B. A. 2377, 4024 Lebedev, M. A.; et al. 2387  
 Babaev, M.-B. A.; et al. 7357 Lim, Kim-pin 2380  
 (Bondarenko, B. A.) 4792 Lorentz, R. A. 779  
 Cereteli, A. S. 4029 Malozemov, V. H. 4020  
 Chalmers, Bruce L. 4030 Maslov, F. G. 2381  
 Cohen, Edgar A., Jr. 4031 Popov, Vasil A.; et al. 2382, 2385  
 Dunham, Charles B. 2378, 9035 Rafal'son, S. Z. 2383  
 Džafarov, Arif S. 5634 Ragozin, David L. 4032  
 Džadik, V. K. 9032 Remes, E. Ja.; et al. 2384  
 Galkin, P. V. 5635 Roman, Bernard H. 4599  
 Gavriljuk, V. T.; et al. 2384 Sendov, Blagovest; et al. 2385  
 Gnatjuk, V. O. (9447) Tamarasov, P. M.; et al. 2387  
 Grebenjuk, D. G. 4792, 7355, 7356 Ugulava, D. K. 793  
 Henze, Dirk 4592 Verdiev, V. G. 2394  
 Ibragimov, I. I.; et al. 7357 Veselinov, Vasil M.; et al. 2382  
 Jacenko, N. Ja. 9038 Winslow, Leon (2386)  
 Kaminskiĭ, V. A. 7358

## A55 Approximate quadratures

Esser, Henning (9485) Ramazanov, M. D. (6187, 6214), 7360  
 Kofron, Josef (6186) Šaripov, T. H. (6188), 7361  
 Morosov, V. A. 9040 Stenger, Frank (4640)

## A60 Asymptotic approximations, asymptotic expansions (steepest descent, etc.) [See also 30A84.]

Bouwkamp, C. J. 794 Love, E. R. 5637  
 Palaleev, L. 5624 Ursell, F. 9043  
 Jones, D. S. 7362 Wong, R.; et al. 7364  
 de Kok, P. 9041 Wyman, M.; et al. 7364  
 Lim, C. S. 7363 Zvirovic, E. I. 9044  
 Liu, Ming-chit 4033

## A65 Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)

Albinus, Günter 5639 Litvin, O. M. (6157)  
 Aliev, B. I. 4128 Machado, Silvio; et al. 2474  
 Atteia, Marc 9109 Nachbin, Leopoldo; et al. 2474  
 Aubin, Jean-Pierre 4141 Nikišin, E. M. 5643  
 Brown, A. L. 4120 Nikol'skii, M. K. 5792  
 Daugavet, I. K. 2388 Penkov, Bojan; et al. 4035  
 Dolganov, R. L. 2389 Prolla, João B.; et al. 2474  
 Duc-Jacquet, Marc 2390 Sendov, Blagovest; et al. 4035  
 Hager, Anthony W. 795 Šmatkov, V. A. 5644  
 Halmos, P. R. 919 Tihomirov, V. M. 7366  
 Havinson, S. Ja. 784, 5641 Ugulava, D. K. 9045  
 Helfrich, Hans-Peter 4034 Vasil'ev, A. I. 7435  
 Jerome, Joseph W. 5642 Vlasov, L. P. 9046  
 Lambert, Joseph M. 797 Wulbert, Daniel 4036, 4037  
 Lambert, Pol V. 2512 Zapata, Guido I. 798

## 42-XX FOURIER ANALYSIS

## A04 Trigonometric polynomials, inequalities, extremal problems

Bljumin, S. L.; et al. 799 Kotljars, B. D.; et al. 799

## A08 Approximation by trigonometric polynomials

Doronin, V. G. 2391 Stečkin, S. B. 9048  
 Džadik, V. K. (9032) Stepanec', O. I.; et al. 4038  
 Ėrohi, I. A. 5645 Sterlin, M. F. 5628  
 Gavriljuk, V. I.; et al. 4038 Timan, M. D. 4041  
 Geft, V. E. 4039 Venugopal Rao, V.; et al. 2393  
 Golubov, B. I. 2392 Verdiev, V. G. 2394  
 Lipovik, V. V. 800 Veselinov, Vasil 7368  
 Popov, Vasil A. et al. (2382) Veselinov, Vasil M.; et al. (2382)  
 Sahney, Badri N.; et al. 2393 Ėuk, V. V. 801, 7369  
 Siddiqi, A. H. 4040

## A12 Trigonometric interpolation

Berman, D. L.	2395	Pavlovskiy, N. M.	2396
Kunika, V. A.	2884, 7367	Vértesi, P. O. E.	802

## A16 Fourier coefficients, Fourier series of functions with special properties, special Fourier series

Baxley, John V.	803	Leindler, L.	9050
Bljumin, S. L.; et al.	4220	Newman, Donald J.	5647
Dyn'kin, E. M.	7370	Sahney, B. N.	806
Georgakis, Constantine	7371	Siddiqi, A. H.	4042
Golinskii, B. L.; et al.	804	Sitko, H. Ja.; et al.	5646
Ibragimov, I. A.; et al.	804	Tönnov, M.	805
Kotljars, B. D.; et al.	4220	Venugopal Rao, V.; et al.	806
Kus'min, E. A.; et al.	5646		

## A18 Multipliers

Fefferman, Charles	5661	Unni, K. R.; et al.	815
Geetha, P. K.; et al.	815	Vasil'eva, O. A.	2401

## A20 Convergence of Fourier and trigonometric series

Bochar, B. K.	807	Martínez Vázquez, Antonio	7374
Ouliasavili, A. B.	7372	Pannikov, B. V.	6993
Kahane, J.-P.	7373	Rubinstein, A. I.	5649
Leblanc, Noël	7395	Tal'kov, L. V.	7375
Makai, E.	5648	Zaharov, A. A.	9051

## A24 Summability of trigonometric series

Boicun, L. G.	4053	Lee Seng Luan	7380
Bolgov, V. A.	812	Martić, Branislav	2403
Bolgov, V. A.; et al.	5654	Mazhar, S. M.	7381
Chaidze, G. A.	5655	Men'šov, D. E.	4056
Eršov, A. V.; et al.	5654	Siddiqi, A. H.	7383
Gabisonija, O. D.	9052	Skvorcov, V. A.	7385
Hsiang, Pu Cheng	7379	Tönnov, M.	813
Idel's, L. V.	(9029)	Trigub, R. M.	2404
Koljada, V. I.	5657	Yeh, Fu	814
Kvee, B.	2402		

## A28 Absolute convergence, absolute summability

Bočkarov, S. V.	4048, 7376	Mazhar, S. M.	4055
Chandra, P.	5656, 7378	Nayak, M. K.	7382
Dikshit, H. P.	4054	Singh, Niranjan	7384
Kvee, B.	5658	Trigub, R. M.	4057

## A40 Conjugate functions, conjugate series, singular integrals

Bočorisvili, M. A.	(8865)	Muckenhoupt, Benjamin	2461
Budze, A. I.	7388	Pynteev, G. N.	(7397)
Geft, V. E.	9049	Say, B. K.	9053
Idel's, L. V.	4059	Sallay, M.	4043
Israelova, M. M.; et al.	7389	Singh, Niranjan	7384
Ljubimova, L. S.; et al.	7389	Subbankulov, M. A.; et al.	7389

## A44 Lacunary series of trigonometric and other functions

Gapoškin, V. F.	808, 2397
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## A52 Orthogonal functions and polynomials, general theory [See also 33A65.]

Alexits, Georg	4044	Cerisch, W.	869
Ankey, Richard	5650	Law, A. G.	(829)
Belašov, L. A.	2398	Liverani, Francesco	4046
(Bari, B. K.)	869	Mérice, F.	2400
Cagarešvili, V. E.	2399	Rafal'son, S. E.	5652
Chihara, T. S.	4045	Suetin, P. K.	(8855)
Cyganov, A. A.	5651	Ullman, J. L.	809

## A56 Fourier series in special orthogonal functions (Legendre polynomials, Walsh functions, etc.)

Cardot, Claude	(4881)	Meltzer, David; et al.	8894
Lackey, Robert B.; et al.	8894		

## A60 Series of general orthogonal functions and generalized Fourier expansions

Aliiev, B. I.	4047, 4128	Kendzav, I.	749
Bočkarov, S. V.	4048	Rubinstein, A. I.	5653
Ceretei, O. D.	810	Skvorcov, V. A.	7385
Freud, G.	4049	Sox, J. L., Jr.	811

## A62 Uniqueness and localization for orthogonal series

Liu, Fon-che	4061	Talaljan, F. A.	4050
Randol, Burton	5659		

## A64 Completeness of sets of functions

Gasimov, M. G.	4052	Prohorenko, V. I.	4051
Gol'dman, M. L.	7377	Nonkin, L. I.	(8873)

## A68 Fourier transforms

Clerc, Jean-Louis	2405	Pollard, E.; et al.	9054
Davtjan, R. S.	4058	Randol, Burton	5659
Idel's, L. V.	4059	Shiba, O.; et al.	9054
Jodeit, Max, Jr.; et al.	9121	Torchinsky, Alberto; et al.	9121

## A72 Fourier-Stieltjes transforms [See also 60E05.]

Landkof, N. S.	(7067)
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## A80 Trigonometric moment problems

Parihar, K. S.	2428
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## A84 Classical almost periodic functions [See also 43A60.]

Alimov, Ju. I.	(1213)	Saint-André, Michel	9055
Basit, Boles R.	5664	Zaidman, Samuel	3913
Preupanu, Anca	2406		

## A92 Multiple Fourier series and integrals

Abdulgamidov, A. R.	7386, 7387, 9056	Israelova, M. M.; et al.	7389
Ash, J. Marshall; et al.	9057	Lebed', A. G.	5662
Budze, A. I.	7388	Liu, Fon-che	4061
Bučev, H. A.	5660	Ljubimova, L. S.; et al.	7389
Chaidze, G. A.	9058	Marayić, Manojlo	2407
Fefferman, Charles	5661	Marasenić, T. V.	5663
Gaïnzarov, G.	4060	Subbankulov, M. A.; et al.	7389
Georgakis, Constantine	816	Tezadze, H. R.	7390
Gol'dman, M. L.	817	Weiland, Grant V.; et al.	9057

## A96 Convolution, factorization

Burnham, J. T.	7394	Šamojan, F. A.	905
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## 43-XX ABSTRACT HARMONIC ANALYSIS (For other analysis on topological and Lie groups, see 22Exx.)

## A05 Measures on groups and semigroups

Choy, S. T. L.	8780	Rothschild, Linda Preiss;	
Dhombres, Jean	3676	et al.	466
Mukherjee, A.; et al.	507	Tserpes, N. A.; et al.	507
Ragozin, David L.; et al.	466		

## A07 Means on groups and semigroups

Chatard, Jacqueline	7017	Ramirez, Donald E.; et al.	5668
Dunkl, Charles F.; et al.	5668	Riemersma, M.	9159

## A10 Measure algebras on groups and semigroups

Bailey, W. J.; et al.	5667	Moskowitz, Martin; et al.	9062
Brown, G.; et al.	5667	Pensud, P. F.	2099
Burnham, J. T.	7394	Saito, Masahiko	(8776)
Moran, W.; et al.	5667	Taylor, Joseph L.	5669
Mosak, Richard D.; et al.	9062	Wood, Geoffrey V.	3640

A15  $L_p$  spaces and other function spaces on groups and semigroups

Carroll, P. W.; et al.	3637	Koehl, F. S.; et al.	3637
Dunkl, Charles F.; et al.	5276	Ramirez, Donald E.; et al.	5276
Kawanaka, Noriaki	456	Veith, Wilbur F.	9059

A20  $L_1$  algebras on groups and semigroups

Arsac, Gilbert	9154	Brown, Gavin; et al.	2494
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## A20 Continued

Bushy, Robert C.; et al.	2495	Moran, W.; et al.	2494
Edwards, R. E.; et al.	2497	Price, J. F.; et al.	2497
Gapallard, Jacques	7024	Saeki, Sadahiro	7479
Hewitt, E.	2498, 2499	Schochetman, Irwin; et al.	2495
Lambert, Pol V.	2512	Shimizu, Tetsuhiro	4168
Leinert, M.	5776		

## A22 Homomorphisms and multipliers of functions spaces on groups

Bachelis, Gregory F.; et al.	4062, 9060	Pigno, Louis; et al.	4062, 9060
Cowling, Michael G.	2410	Rigelhof, Roger	2412

## A25 Fourier and Fourier-Stieltjes transforms on locally compact abelian groups

Blum, J. R.; et al.	7393	Ito, Takashi; et al.	2409
Edwards, R. E.	818	Lumer, Gunter	2478
Epstein, Bernard; et al.	7393	Schreiber, Bert M.; et al.	2409

## A30 Fourier and Fourier-Stieltjes transforms on non-abelian groups and on semigroups

Sally, P. J., Jr.; et al.	8781	Warner, Garth; et al.	8781
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## A35 Positive definite functions on groups

Ito, Masayuki	5666	Ovcinnikov, S. V.	464, 465
Lindahl, R. J.; et al.	916	Rao, Prakasa	9061
Maserick, P. H.; et al.	916	Schmidt, K.	4065

## A40 Character groups and dual objects

Armstrong, D. L.	819	Kahane, J.-P.; et al.	7391
Helson, H.; et al.	7391		

## A45 Spectral synthesis on groups and semigroups

Benedetto, John J.	820, 5670	Kaufman, Robert P.	9064
Drury, Stephen William	901	Saeki, Sadahiro	2413
Fel'dman, G. M.	2093	Varopoulos, Nicholas Th.	2480
Ferra, Hélène	5671	Woodward, Gordon S.	4067
Galanis, E.	4066, 9063		

## A50 Convergence of Fourier series and of inverse transforms

Bachelis, Gregory F.; et al.	4062	Onneveer, C. W.; et al.	4063
Edwards, R. E.	2411	Pigno, Louis; et al.	4062
Gibbs, J. Edmund	7327, 7328	Sugiura, Mitsuo	3641
Onneveer, C. W.	4064	Waterman, Daniel; et al.	4063

## A55 Summability methods on groups and semigroups

Edwards, Robert E.; et al.	6981	Ross, Kenneth A.; et al.	6981
Hewitt, Edwin; et al.	6981		

## A60 Almost periodic functions on groups and semigroups

Basit, Boles R.	5664	Ramirez, Donald E.; et al.	463
Bauer, Walter	(8769)	Terras, Riho	5665
Dunkl, Charles F.; et al.	463		

## A65 Representations of groups and semigroups

Fel'dman, G. M.; et al.	7392	Macae, V. I.; et al.	7392
Ljubić, Ju. I.; et al.	7392		

## A70 Analysis on specific locally compact abelian groups [See also 12A85.1]

Baker, R. C.	2408	Moran, W.	5277
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## A75 Analysis on specific compact groups

Benedetto, John J.	5670	Weiss, Norman J.	5278
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## A80 Analysis on other specific Lie groups

Carroll, Robert; et al.	462	Silver, Howard; et al.	462
Farias, Antonio O.	4440	Simms, D. J.	5275
Kiselev, E. V.	(3635)	Takeuchi, Masaru	2090
Martin, Christiane	(2089a-b)		

## A85 Analysis on homogeneous spaces

Faraut, Jacques; et al.	2100	Rogov, V.-B. K.	4458
Harzallah, Khélifa; et al.	2100	Touze, Saliou	2101

## A90 Spherical functions

Clerc, Jean-Louis	2405	Faraut, Jacques; et al.	6982
Dunkl, Charles F.	2496	Harzallah, Khélifa; et al.	6982

## 44-XX INTEGRAL TRANSFORMS, OPERATIONAL CALCULUS (For fractional derivatives and integrals, see 26A33.)

## -00 Difficult to classify at the second level

Marčenko, S. S.	4974
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## A05 General transforms [See also 42A76.]

Berkolaiko, M. Z.; et al.	4176	Peterson, G. E.; et al.	822
Geetha, P. K.; et al.	815	Rutickiy, Ja. B.; et al.	4176
Gol'dman, M. L.	817	Saxena, R. K.	2415, 2416
Gulati, H. C.	9067	Tessereau, Harold; et al.	822
Makarov, V. L.	7330	Unni, K. R.; et al.	815

## A10 Laplace transform

Abdrahmanov, V. G.	2414	Kalia, Ravindra Nath	821
Evans, Kenneth, Jr.; et al.	828	Miskelevičius, A.	5672
Fox, Charles	9065	Misra, O. P.	9068
Gupta, R. K.	7406	Pathak, Ram Shankar	4072
Gupta, Sunil Kumar	(7129)	Sevaria, K. S.	7407
Jackson, E. Atlee; et al.	828	Sharma, Umesh Chandra	5673

## A15 Special transforms (Legendre, Hilbert, etc.)

Abdrahmanov, R.	4068	Masood, S.; et al.	9066
Bhise, V. M.	2418	Perel'man, A. Ja.; et al.	(7417)
Gupta, K. C.	4069	Punina, V. A.; et al.	(7417)
Jain, S. C.	2422	Sankar, P. B. K.	7398
Jones, D. S.	824	Saxena, R. K.	2417, 4073
Kapoor, V. K.; et al.	9066	Singh, Pratap	826
Kesarwani, Roop Narain	825	Widder, D. V.	3974

## A20 Transforms of special functions

Blinov, V. S.	7399	Mittal, P. K.	4071, (8886)
Bora, S. L.; et al.	2419	Mittal, S. S.; et al.	823, 4070
Dahiya, R. S.; et al.	7400	Naylor, D.	2421
Gehroo, D. C.	2423	Rao, V. V. L. N.	5674
Gupta, K. C.; et al.	823, 4070	Saxena, R. K.; et al.	2419, 5675
Gupta, Sunil Kumar	7401	Sharma, O. P.	7402
Kalla, S. L.	4074	Singh, Bhagat; et al.	7400
Kalla, S. L.; et al.	2419	Singh, Rattan	7403
Mandal, Birendranath	7396	Vyas, R. C.; et al.	5675
Mathur, S. L.	7408	Wimp, Jet	7404
Mehra, A. H.	2420		

## A25 Singular integrals (Calderón-Zygmund, etc.) [See also 47G05.1]

Dudučava, R. V.	5824	Pjhteev, G. M.	7397
Makanina, T. A.	4225	Sagher, Y.	9070
Muldoon, M. E.	9042		

## A40 Calculus of Mikusiński and other similar operational calculi

Fényes, T.	827	Kosik, P.; et al.	7405
Fényes, T.; et al.	7405	Tanaka, Kiyomi	9069
Hadžić, O.	7429		

## A50 Moment problems [See also 42A80.1]

Edigarian, V. M.	7460	Law, A. G.	829
Erdős, V. L.	5676	Mel'nikova, I. V.; et al.	4075
Ivanov, V. K.; et al.	4075		



## 45-XX INTEGRAL EQUATIONS

## 45A05 Linear integral equations

Kiselev, A. Z.	7409	Varga, László; et al.	7490
Marton, K.; et al.	7490	Zamota, A. V.; et al.	2424
Mihailov, L. G.; et al.	2424		

## 45B05 Fredholm integral equations

Gandel', Ju. V.	9085	Leonov, A. S.; et al.	2941
Golberg, Michael A.	7410	Hogin, M. V.	(7083)
Goncarskiy, A. V.; et al.	2941	Schwabik, Štefan	2537
Jagola, A. G.; et al.	2941		

## 45C05 Eigenvalue problems (See also 34B25, 35Pxx, 47E05.)

Hasanov, R. T.	7411	Smith, Keith P.; et al.	833
Kroll, Jeffrey R.; et al.	833	Swann, Dale W.	834

## 45D05 Volterra integral equations (See also 34A10.)

Buhgeim, A. L.	5822	Nováková, E.; et al.	835
Caljuk, Z. B.; et al.	839	Olmstead, W. E.; et al.	4078
Gautesen, A. K.; et al.	4078	Samsutdinov, M. M.; et al.	839
Hannsgen, Kenneth; et al.	2425	Shilepsky, Carol; et al.	2425
Kalaída, O. P.	4076	Smolin, Ju. N.; et al.	836
Manougian, Manoug N.; et al.	9074	Švejška, Jaromír	4084
McDermott, Terrence S.	997	Vinokurov, V. R.; et al.	836
Nagy, J.; et al.	835	Wansmaker, Wayne M.; et al.	9074

## 45Exx Singular integral equations

## E05 Integral equations with Cauchy type kernels (See also 30A88, 35J15, 44A15, 44A35.)

Abdullaev, A. K.	4085	Jones, D. S.	(824)
Azimova, G. G.	5679	Konyškova, E. M.	4079
Chakrabarti, Aloknath	9084	Motkin A. S.	4080
Denisova, Z. G.	4077, 9076	Prabhakar, Tilak Raj	2426
Dzuraev, A. D.	9077-9080	Primacuk, L. P.	4081
Dzvarševili, A. G.	5681	Tuzik, A. I.	9083

## E10 Integral equations of the convolution type (Abel, Picard, Toeplitz and Wiener-Hopf type) (See also 44A15, 44A35, 47B35.)

Azamotova, V. I.; et al.	837	Kudrevicz, Jacek	7415
Babeiko, V. A.	9071	Lats, N.	7416
Berković, F. D.	5680	Lisunova, I. V.; et al.	837
Brunhes, Denis	9129	Sologub, V. G.	832
Juhanonov, N. N.	5682		

## E99 None of the above, but in this section

Arihov, D. I.	7414	Krupnik, N. Ja.; et al.	
Azamotova, V. I.; et al.	9075		980, 981, 4223
Dencev, Račo	978	Lisunova, I. V.; et al.	9075
Frolov, V. D.	979	Mačvariani, I. D.	4224
Gohberg, I. C.; et al.		Rabinovič, V. S.	986
	980, 981, 4223	Reinermann, J.; et al.	9082
Juberg, R. K.	982	Rovnyak, James	987
Kokilasvili, V. M.	2535	Semencul, A. A.	988
Kravčenko, V. G.	983	Spigel, E. M.	5826
		Stallbohm, V.; et al.	9082

## 45F05 Systems of linear integral equations

Jagetya, R. N.	2427	Seoljakov, V. I.	838
Kalla, S. L.	7413		

## 45Gxx Nonlinear integral equations (See also 47Hxx.)

## G05 Singular nonlinear integral equations

Chandra, Jagdish; et al.	840	Gaziev, A.	7412
Fleishman, B. A.; et al.	840	Kolosov, A. I.	7164

## G99 None of the above, but in this section

Ahmedov, K. T.; et al.	9227	Murenkov, T. K.	4227
Bickart, Theodore A.; et al.	4228	Povolockiy, A. I.; et al.	4233
Cheng, Ing-yih S.; et al.	(8198)	Prada, Guillermo; et al.	4228
Efendieva, O. A.; et al.	9227	Radjabov, N.	4083
Elenkiy, Ju. N.	7539, 7541	Resetov, N. Ja.	5688, 5689
Jagubov, M. A.; et al.	9227	Tivoncuk, V. I.	5690
Kozak, John J.; et al.	(8198)	Zabreiko, P. P.; et al.	4233
Kr'stev, Rangel	4082		

## 45H05 Miscellaneous special kernels (See also 44A15.)

Billman, B. M.	5821	Peřinová, Vlasta	9086
Busurulov, A. A.	5684	Poljanina, O. I.	9073
Dange, A. V.; et al.	5685	Punina, V. A.; et al.	7417
Fox, Charles	(9065)	Rusia, K. C.	4086
Habibullah, G. Mustafa	5691	Schumitsky, Alan; et al.	2521
McNabb, Alex; et al.	2521	Singh, B. M.; et al.	5685
Perelman, A. Ja.; et al.	7417	Vasilevskiy, B. L.	5827

## 45J05 Integro-ordinary differential equations

Ajašinov, M. M.	2285	Mitropol's'kiy, Ju. O.; et al.	7421
Diotko, Tadeusz	2429		4087
Filatov, A. N.; et al.	7421	Nikol'skaja, L. N.	7422
Gruño, E. I.	2430	Paršinovic, I. V.	7423
Hlaváček, Ivan	5692	Rahmatullina, L. F.	5695
Kasymov, K. A.; et al.	(7420)	Rudakov, V. P.	841
Kitapbaev, M. K.; et al.	(7420)	Šarkova, N. V.	842, 8939
Lando, Ju. K.	9087	Vahabov, G. O.	5696, 5697
		Wiener, Klaus	

## 45K05 Integro-partial differential equations

Bykova, E. Ja.	7424	Karpilovskaja, E. B.	(9529)
Calidze, A. K.	7425	Lee, Chiu Fan; et al.	9088
Dombrovskiy, V. A.	843	Ogustorelli, Mehmet Hanik; et al.	9088

## 45Lxx Approximation of solutions

## L05 Theoretical approximation of solutions

Ahmedov, K. T.; et al.	7419	Efendieva, O. A.; et al.	7419
Alenkerov, A. G.	5686	Fleishman, B. A.; et al.	(840)
Chandra, Jagdish, et al.	(840)	Jagubov, M. A.; et al.	7419
Efendieva, O. A.	7418	Sanikidze, D. G.	5683

## L10 Numerical approximation of solutions (For numerical analysis, see 65R05.)

Fesčiev, Iv. Hr.; et al.	9081	Kirov, G. Hr.; et al.	9081
Gal', M. M.	(2940)	Okolelov, O. P.	9072

## 45Mxx Qualitative behavior

## M05 Asymptotics

Brossmer, Gunnar A.	830	Marras, G. W.; et al.	831
Caljuk, Z. B.; et al.	(839)	Miller, R. K.	5677
Kasymov, K. A.; et al.	5693, 7420	Obretenov, Apostol	(2766)
Kitapbaev, M. K.	5694	Proctor, T. G.; et al.	831
Kitapbaev, M. K.; et al.		Samsutdinov, M. M.; et al.	(839)
	5693, 7420	Smolin, Ju. N.; et al.	(836)
London, Stig-Olof	2431	Vinokurov, V. R.; et al.	(836)
MacCamy, R. C.; et al.	2432	Wong, J. S. W.; et al.	2432

## M10 Stability theory

Vinokurov, V. R. 5678

## M99 None of the above, but in this section

Rešetov, N. Ja. 5687

## 45N05 Abstract integral equations, integral equations in abstract spaces

Brascamp, H. J. 977 Mosolova, S. S. 2508

## 46-XX FUNCTIONAL ANALYSIS (For manifolds modelled on topological linear spaces, see 57A20, 58Bxx.)

## -03 Historical

(Plans, Antonio) (20b) R.-Salinas, Baltasar (20b)

## 46Axx Topological linear spaces

## A05 Locally convex spaces

Bochnak, J.; et al. 592  
de Bruyn, G. F. C. 5698  
Chadwick, J. J. M.; et al. 5699  
Colombau, Jean-François; et al. 4090  
Cross, R. W.; et al. 5699  
De Grande-De Kimpse, H. 4091  
Dehon, Michèle 2434  
Devito, C. L.; et al. 845  
De Wilde, Marc 4092  
Hobbs, Gérard 4187, 4188  
Geller, V. A. 4095  
Godet-Thobie, Christiane 2436  
Hogbe-Wend, Henri 2437  
Jha, Kamal Kant 5701  
Khanh, Bui Doan 4096  
Koshi, Shozo; et al. 4097  
Laset, Daniel; et al. 4090  
Ligaud, Jean-Pierre 7431  
Lloyd, John W. 4099

Lohman, Robert H. 847, 2441  
Morris, Sidney A. 4102  
Nagakura, Yasujiro 5704  
Noverras, Philippe 3761  
Palamodov, V. F. 2442  
Peck, N. T.; et al. 4104  
Porta, Horacio; et al. 5705  
Shapiro, Joel H. 4105  
Siciak, J.; et al. 592  
Takahashi, Yasuji; et al. 4097  
Takenaka, Shigeo 7433  
Taylor, Peter D. 9094  
Terzioğlu, T. 2443  
Tomášek, Stanislav 2444  
Tumarkin, Ju. B. 5723  
Valdivia Ureña, Manuel 4108, 9095  
Webb, J. H. 2445  
Welland, R.; et al. 845

## A09 Normological spaces

Colombau, Jean-François; et al. 9089, 9090  
Grangé, Marcel; et al. 9090

Laset, Daniel; et al. 9089  
Perrot, Bernard; et al. 9089, 9090  
Tumarkin, Ju. B. 5706

## A15 Other topological linear spaces

Averbuh, V. I.; et al. 9130, 9131  
Bair, Jacques (2573)  
Ceresis, V. N. 4089  
De Wilde, Marc 846, 7426  
Garling, D. J. H. 7427  
Gerl, Peter 7428  
Gleit, Alan 5700  
Hadžić, O. 7429  
Hanspeter, Bieri 7430  
Hara, W. R.; Jr.; et al. (1040)  
Jamison, R. E.; et al. (2570)  
Johnson, William B. 5702  
Kaltos, N. J. (3628)  
Kenelly, John W.; et al. (1040)  
Kominak, Zygfryd 2440

Kottman, Clifford A. 4098  
Lawrence, J. F.; et al. (1040)  
Melencov, A. A. 9091, 9092  
Min'kova, R. M. 5703  
Monna, A. F. 4101  
Peck, N. T. 4103  
Skordev, Dimit'r 7502  
Smoljanov, O. G.; et al. 9130, 9131  
Stavrakas, N. M.; et al. (2570)  
Sanyach, Christian 9093  
Tomášek, Stanislav 7434  
Turpin, Philippe 4106, 4107  
Vasilach, Serge 899  
Vasil'ev, A. I. 7435

## A20 Duality theory

John, Kamil 2438, 2439

## A25 Reflexivity and semi-reflexivity

Frülicher, Alfred; et al. 4094  
Jarchow, Hans; et al. 4094

Mertins, Ulrich 4100

A30 Open mappings and closed graph theorems and completeness (including B-, B<sub>0</sub>-completeness)

Ceřtlin Ja. M. 2433 Nakamura, Michiko 848

## A35 Summability and bases

Crone, L.; et al. 844  
Fleming, D. J.; et al. 844

Jessup, P.; et al. 844  
Tersicglu, T. 849

## A40 Ordered topological linear spaces, vector lattices

Abramović, Ju. A. 850  
Alfseu, Erik M.; et al. 9096  
Andersen, Tage Bai; et al. 9096  
Anderson, Bernard C.; et al. 9097  
Bahtina, I. A. 7550  
Bair, Jacques 9098  
Bers, Edgar 5707, 5708  
Boboc, N.; et al. 852  
Bucur, Gh.; et al. 852  
Capon Michèle 9099  
Crofts, G.; et al. 2446  
Danilenko, I. F. 7437  
Dimiev, Stantcho 7438  
Duhoux, Michel 853  
Edwards, C. M. (6317)  
Elenski, Ju. B. 7540  
Ezajan, A. B.; et al. 2510  
Fakhoury, Hicham 5709  
Geller, V. A.; et al. 5713  
Godini, G. 5710  
Habre, William 4111  
Ivanova, G. Ja. 7439  
Jameson, G. J. O. 7440  
Lee, John Walter 5783

Lifšic, E. A. 4174  
Lozanovskii, G. Ja. 854  
Marti, J. T. 9100  
Masterson, J. J.; et al. 2446  
Mironov, A. V.; et al. 4112  
Moore, L. C., Jr.; et al. 4113  
Nakano, Hidegoro 2447  
Nakano, Hidegoro; et al. 9097  
Ng, Kung-fu 4114  
Rudel'man, A. A. 5711  
Perspical, I. I. 5712  
Fortenier, Claude 855  
Reber, James C.; et al. 4113  
Sabirov, I. 2448  
Sarymsakov, B. T.; et al. 4112  
Schaefer, Helmut H. 7441  
Sekieru, I. V. 4175  
Srožiddinov, E. M.; et al. 2510  
Ten, V. S. 4115  
Veksler, A. I. 4116, 9101  
Veksler, A. I.; et al. 5713  
Wong, Yau-chuen 2449  
Wright, J. D. Maitland 2450  
Zijadinov, M. D. 7493

A45 Sequence spaces (including B<sub>0</sub> spaces)

Bantinas, Martin 4088  
De Grand-De Kimpse, H. 4177  
Holub, J. B. 953

Nguyen Phuong Cúc 5800  
Silverman, Gerald 881  
Yamamoto, Noboru 4110

## A99 None of the above, but in this section

Fakhoury, Hicham 4093  
Fuchssteiner, Benno 2435  
Mills, Rodney 7432

Vincent-Smith, G. F. 7436  
Wittstock, Gerd 4109

## 46Bxx Normed linear spaces and Banach spaces (For function spaces, see 46Exx.)

## B05 Topology in terms of the norms

Antonovskii, M. Ja.; et al. 856  
Antosik, P. 5714  
Barranger, J. 7442  
Berg, I. D. 4118  
Berkson, Earl 4191  
Bollobás, Béla 9103  
Bray, Georges 4119  
Brooks, James K. 5715  
Brown, A. L. 4120  
Bulavskii, V. A.; et al. 4121  
Charvát, František 7443  
Curtis, Douglas W. 7444  
Davis, William J. 7445  
Effros, Edward G. 5717  
Fakhoury, Hicham 858, 859  
Fonf, V. P. 7446  
Gleit, Alan; et al. 4123  
Holmes, Richard B.; et al. 5718  
Holub, J. B. 4124  
Johnson, J. A. 9104

Kadeč', M. I.; et al. 861  
Koševnikova, I. G.; et al. 856  
Kripke, Bernard R.; et al. 5718  
Lin, Bor-luh 7448  
Lohman, Robert H. 864  
Makovoz, Ju. I. 865  
McGuigan, Robert; et al. 4123  
Mil'man, V. D. 866, 2451  
Nguyen Phuong Cúc 5719  
Oman, E. V. 4125  
Rubinstein, G. B.; et al. 4121  
Schäffer, J. J. 5720  
Snobar, M. G.; et al. 861  
Stankovski, A. 4127  
Tong, A. E. 5722  
Tong, Alfred E.; et al. 9106  
Vasil'ev, V. A. 4122  
Vignoli, Alfonso 9107  
Wilken, Donald R.; et al. 9106  
Zizler, V. 9108

## B10 Duality and reflexivity

Giles, J. R. 860  
Hachevic, V. A. 2517  
Lazar, A. J.; et al. 862  
Lindenstrauss, J.; et al. 862, 863

Pełczyński, A.; et al. 863  
Ruckle, William H. 868  
Stegall, Charles 4126  
Wilansky, Albert 2453

## B15 Summability and bases

Arutjunjan, F. G. 9102  
Bauer, W. R.; et al. 4117  
Benner, R. H.; et al. 4117  
Chadwick, J. J. M. 857

Edel'stein, I. S. 5716  
Gruman, Lawrence; et al. 3759  
Holub, J. R.; et al. 867  
Kiselman, Christer O.; et al. 3759

B15 *Continued*

Marti, J. T.	7449	Singer, Ivan	47451
Reberford, J. R.; et al.	867	Tită, Nicolae I.	5721
Ruckle, William H.	9105	Tumarkin, Ju. B.	5723
Schonefeld, Steven	2452		

B99 *None of the above, but in this section*

Gnatjuk, V. O.	7447	Ramis, Jean-Pierre	42205
Greenfield, Stephen J.; et al.	5420	Wallach, Nolan R.; et al.	5420
Pincus, David	6619	Zisler, Václav	(1042)

46Cxx Inner product spaces, Hilbert spaces (For function spaces, see 46Exx.)

C05 *Geometry and topology of the spaces*

Aliiev, B. I.	4128	Miličič, Pavle M.	4129, 7453
Atteia, Marc	9109	Nath, B.	7450, 9112
Baranger, J.	7442	Peyser, Gideon	5724
Dovtya, L. N.; et al.	9110	Rajts, L.	9113
Ghosh, M. N.	6037	Sudakov, V. N.; et al.	9110
Golomb, Michael	9111	Titarenko, Ju. V.	1090
de la Harpe, Pierre	6040	Valentine, Joseph E.	(2579)
Krivonozov, L. N.	7452		

C10 *Other properties of such spaces*

(Bari, N. K.)	869	Plans, Antonio	(20a)
Gerisch, W.	869		

C99 *None of the above, but in this section*

Fillmore, P. A.; et al.	2518	Williams, J. F.; et al.	2518
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46D05 *Spaces with indefinite inner product*

Hackevič, V. A.	2517	Langer, Heinz	937
Lander, F. I.	4197	Masuda, Kyūya	4190

46Exx Function spaces (For function algebras, see 46J10.)

E10 *Topological linear spaces of continuous, differentiable or analytic functions*

Banilover, H.	4130	Mokobodski, Gabriel; et al.	4132
Binz, E.; et al.	4131, 9115	Münster, M.; et al.	2457
Buchwalter, Henri; et al.	5726	Perepečaj, I. I.	9116
Carroll, F. W.; et al.	3637	Račínov, Ivan	7495
Chae, Soo Bong	876	Rao, Marali	9117
Căzăr, A.	2456	Rogalski, Marc; et al.	4132
De Wilde, M.; et al.	872	Schmets, J.	875
Dineen, Seán	9118	Schmets, J.; et al.	872, 2457, 5726
Feldman, W.; et al.	4131, 9115	Sentilles, P. Dennis	4133
Gurov, S. V.	5734	Wiley, Samuel J.	5731
Koehl, F. S.; et al.	3637	Williams R. Douglas	4134
Lelong, Pierre	594		

E15 *Banach spaces of continuous, differentiable or analytic functions*

Arenson, E. L.	871	Merrill, Samuel, III	5735
Bočefin, A. M.; et al.	7458	Nagnibida, M. I.	4135, 4136
Brown, A. L.	5725	Nikol'skiĭ, M. K.	7504
Duren, P. L.; et al.	878	Pryce, J. D.	5729
Frazier, Arlene P.	2198	Rao, Murali	2458
Grossetête, Claire	5732, 5733	Roth, E.	2459, 9120
Guliasavili, A. B.	7372	Sann, Sherwood	7456
Gurov, S. V.	9119	Scheffold, Egon	874
Hasumi, Morisuke	591	Semadeni, Zbigniew	45730
Hirsberg, Bent	5727	Tong, Alfred E.	4204
Johnson, J. A.	873	Trutnev, V. M.	(8874)
Kacnel'son, V. E.; et al.	7458	Vinogradov, S. A.	4137
Kutateladze, S. B.	5728	Voskanjan, V. V.	7459
Lal, Nand; et al.	5735	Williams, D. L.; et al.	878

E25 *Rings and algebras of continuous, differentiable or analytic functions (For Banach function algebras, see 46J10, 46J15.)*

Su, Chen-jyi; et al.	7457	Su, Li Pi; et al.	7457
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E30 *Spaces of measurable functions,  $L^p$  spaces, Orlicz spaces*  
(See also 43A15.)

Braun, Ben-Ami	4138	Ng, F. N.	9123
Brooks, James K.	2460	Novinger, W. P.	3665
Cheng, Ing-yih S.; et al.	(8198)	Pališev, B. S.	495
Clerc, Jean-Louis	2405	Petunin, Ju. I.; et al.	7461
Cwikel, M.; et al.	4139	Rutickiĭ, Ja. B.; et al.	5736
Diestel, J.	930, 2511	Sagher, Y.; et al.	4139
Dudučava, R. V.	5824	Sedsev, A. A.	4140
Edigarian, V. M.	7460	Semenov, E. M.; et al.	7461
Jodeit, Max, Jr.; et al.	9121	Silverman, Gerald	881
Kozak, John J.; et al.	(8198)	Stepin, A. M.	5316
Kuricyn, Ju. G.; et al.	7461	Sundaresan, Kondagunta	1106
Lee, Peng-ye	9122	Torchinsky, Alberto; et al.	9121
Lusin, V. I.; et al.	5736	Ul'janov, P. L.	9124
Meletidi, M. A.	880	Zander, Vernon	882
Muckenhoupt, Benjamin	2461		

E35 *Sobolev spaces, embedding theorems, trace theorems, interpolation spaces*

Atteia, Marc	9109	Kruglov, A. A.	5742
Aubin, Jean-Pierre	4141	Kruglov, A. A.; et al.	2464
Bagby, Richard J.	883	Kudrjavcev, L. D.	9126
Barassi, Giulio Cesare	9125	Marucci, Claude	5743
Boman, Jan	884	Mjasnikov, V. P.; et al.	5744, 9127
Budze, A. I.	7462	Mokin, Ju. I.	9128
Bugrov, Ja. S.	5737	Mosolov, P. P.; et al.	5744, 9127
Burenkov, V. I.	2462, 2463	Nourrigat, Jean	4143
Cerretelli, O. D.	885	Pandzikidze, L. K.	5745
Foht, A. B.	4142	Rešetnjak, Ju. G.	5746
Fougères, Alain	5738, 5739	Šaripov, T. N.	2465
Gajdaudinov, I. G.	7463	Solomjak, M. Z.; et al.	2464
Il'in, V. P.	5740	Strichartz, Robert S.	2466
Jakovlev, G. M.	5741	Yoshikawa, Atsushi	7531
Kirillov, P. V.	886a-b		
Kopilevič, Ju. I.	(6266)		

E40 *Spaces of vector- and operator-valued functions*

Arkin, V. I.; et al.	879	Nourrigat, Jean	4143
Gretsky, V. E.; et al.	4178	Uhl, J. J., Jr.; et al.	4178
Levin, V. L.; et al.	879		

E99 *None of the above, but in this section*

Alò, Richard A.; et al.	2454	Gol'dman, M. L.	817
Berg, Christian	870	de Korvin, Andre; et al.	2454
Berkolaiko, M. Z.; et al.	4176	Levis, Paul W.; et al.	7494
Brooks, James K.; et al.	3670, 7454, 7494	Pališev, B. S.	7455
Dinculeanu, Nicolae; et al.	3670, 7454	Rutickiĭ, Ja. B.; et al.	4176
Edwards, J. R.; et al.	2455	Santarelli, Ullderico	9114
		Terras, Riho	5665
		Wayment, S. G.; et al.	2455

46Fxx *Distributions, generalized functions, distribution spaces*F05 *Topological linear spaces of test functions and distributions*

Dostal, M. A.	888	Popa, Nicolae	889
Konder, Peter Paul	2467		

F10 *Operations with distributions*

Berenstein, Carlos A.; et al.	7464	Fisher, B.	5749
Bernardi Marco Luigi	7245	Kučera, Jan	2468
Bondi, I. L.	5747	Petersen, Bent E.	7466
Cohen, Marion D.	887	Nichtmyer, R. D.	5752
Crăciunescu, P.	5748	Schmidt, Adina; et al.	7242
Dostál, Miloš A.; et al.	7464	Šmukler, A. I.	890
Fenyő, István; et al.	7242	Swartz, Charles	891, 2469
		Walter, Gilbert	7467

F15 *Hyperfunctions, analytic functionals (See also 32A25, 32C35.)*

Bony, Jean-Michel; et al.	7241	Ōuchi, Sunao	7465
Kawai, Takahiro	7252	Schapira, Pierre; et al.	7241
Morimoto, Mitsuo	5750		

F99 *None of the above, but in this section*

Abdurahmanov, R.	(4068)	Morozov, S. F.	(9230)
Benedetto, John J.	5670	Rao, M. M.	5751
Brunhes, Denis	9129		



46Gxx Measures, integration, derivatives [For integration on infinite-dimensional spaces, see 28A40; for nonlinear functional analysis, see 58-XX, especially 58Cxx.]

### G05 Derivatives

Averbuh, V. I.; et al.	9130, 9131	Leduc, Michel	893
Biswas, Manigopal	2470	Matos, Mário C.	2472
Bittner, L.	(5843)	Muratori, Paolo	894, 7470, 9132
Bleher, P. M.; et al.	5829	Nazarov, F.; et al.	9133
Chow, Shui-nee, et al.	618	Perov, A. I.; et al.	9133
Citlanadze, K. E.	7468	Pisanelli, Domingos	3788
Dineen, Sean	877, 5753	Simonnet, Michel	4145
Gähler, Siegfried; et al.	2751	Smoljanov, O. G.; et al.	9130, 9131
Gähler, Werner; et al.	7469	Uglanov, A. V.	5819
Goodman, Victor	8967	Višik, M. I.	5828
Heikkilä, Seppo	618	Višik, M. I.; et al.	5829
Lasota, A.; et al.	2471	Whitfield, J. H. M.; et al.	2471
Leach, E. B.; et al.			

### G15 Lifting theory

Bichteler, Klaus	5311	Gapillard, Jacques	7014
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### G99 None of the above, but in this section

Dentoni, Paolo	892	Mukherjee, A.; et al.	5268
Krikorian, Nishan	4144	Rejouni, R.	2134, 2135
Kuelbs, J.; et al.	2132	Tserpes, N. A.; et al.	5268
Mandrek, V.; et al.	2132		

46Hxx Topological algebras, normed rings and algebras, Banach algebras [For group algebras, convolution algebras and measure algebras, see 43-XX.]

### H05 General theory

Altman, Mieczysław	2473	Machado, Silvio; et al.	2474
Benedetto, John	5754	Murphy, I. S.	7513
Browder, Andrew	896	Nachbin, Leopoldo; et al.	2474
Burmann, Hans-Wilhelm	9134	Ng, Shu-bun; et al.	898
Cochran, Allan C.	897	Pariset, Jean	2475
Dubuc, Eduardo J.; et al.	4147	Porta, Horacio; et al.	4147
Grabiner, Sandy	2513	Prolla, João B.; et al.	2474
Gramsch, Bernhard; et al.	936	Salimov, Ja. B.	7473
Harte, Robin	7471	Scorza, Romano	5755
Helemskiĭ, A. Ja.	9135	Tsitsas, Leonidas	(3487)
Rusain, T.; et al.	9136	Vasilescu, F.-H.	7474
Janovits, M. F.	4149	Warner, Seth	5175
Kantorovits, Shmuel	9137	Warner, Seth; et al.	898
Lay, David; et al.	936	Wong, Pak-ken; et al.	9136
Loy, R. J.	7472		

### H10 Ideals and subalgebras

Barnes, Bruce A.	895	Yood, Bertram	7475
Burnham, J. T.	4146		

### H25 Normed modules and Banach modules

Helemskiĭ, A. Ja.	4148	Vasilach, Serge	899
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### H99 None of the above, but in this section

Arzac, Gilbert	9154	Świerczkowski, S.	(330)
Gohberg, I. C.; et al.	2519	Vasilescu, F.-H.	4184
Leitner, Jürgen; et al.	2519		

46Jxx Commutative Banach algebras

### J05 General theory

Alling, Norman L.; et al.	4150	Gigante, Giuliana	4154
Bishop, E. R.	900	Levi, R. W.	2477
Campbell, L. Andrew; et al.	4150	Lumer, Günter	2478
Carpenter, R. L.	7476	Saei, Sadahiro	7479
Chalice, Donald R.	7477	Scheinberg, Stephen	9148
Davis, A. M.	5756	Warner, Seth	2481
Fayet, Jean-Pierre	2647	Zinde, V. M.	5762

### J10 Banach algebras of continuous functions, function algebras

Clayton, Dennis	9138	Gorin, E. A.	4155
Coardas, G. L.; et al.	9139	Havin, V. P.	903
Davis, A. M.	9141	Isbell, J. R.	1104
Drury, Stephen William	901	Konjuhovski, V.; et al.	9146
Dufresnoy, Alain	9142	Laursen, Kjeld B.	2476
Dyn'kin, E. M.	7370	Lelong-Perrand, Jacqueline	5916
Eifler, Larry Q.	5757, 9143	Loy, R. J.	9147
Ellis, A. J.	902	van der Put, M.	904
Fuchssteiner, Benno	9144	Reiter, H. B.; et al.	9139
Gamelin, T. W.	9145	Sarason, Donald	4156
Gamelin, T. W.; et al.	4153	Sidney, S. J.	5761
Garnett, John; et al.	4153	Sikirjavič, V. Ja.	931, 932
Geisberg, S.; et al.	9146	Varopoulos, Nicholas Th.	2480
Gerlach, Eberhard	5758	Wilansky, Albert	2482

### J15 Banach algebras of differentiable or analytic functions, $H^p$ -spaces [See also 30A98, 32E25.]

Rörk, Jan-Erik	4151	Osadčij, N. M.	5760, 7478
(Brooks, R. M.)	45401	Šamojan, P. A.	905
Onop, Ivan; et al.	4152	Senickin, V. H.	2479
Cutler, Wayne	9140	Stegeman, J. D.	906
Fel'dman, G. M.	(3736)	Wermer, John	7480
Ferrier, Jean-Pierre; et al.	4152	Several complex variables	45401
Goodman, Roe	2102	Symposium on several complex variables	45401
Metzger, James J.	5759		

### J20 Ideals, maximal ideals, boundaries

Glasner, Moses	(2161)		
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### J25 Representations

Kaniuth, Eberhard	2082	Khanh, Bui Doan	945
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### J99 None of the above, but in this section

Benedetto, John J.	820	Moran, W.; et al.	2494
Brown, Gavin; et al.	2494	Price, J. F.; et al.	2497
Busby, Robert C.; et al.	2495, 4167	Ramirez, Donald E.; et al.	5668
Dunkl, Charles F.	2496	Schochetman, Irwin; et al.	2495, 4167
Dunkl, Charles F.; et al.	5668	Shimizu, Tetsuhiro	4168
Edwards, R. E.; et al.	2497	Smith, Harvey A.; et al.	4167
Hewitt, E.	2498, 2499	Taylor, Joseph L.	5669
Leinert, M.	5776		

46Kxx Rings and algebras with an involution

### K05 Ideals, subalgebras

Barnes, Bruce A.	5763	Plák, Vlastimil	5764
Palmer, T. W.	7481	Saworotnov, Parfeny P.	7482

### K10 Representations

Maxwell, George	8688		
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### K15 Hilbert algebras

Barnes, Bruce A.	895		
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### K99 None of the above, but in this section

Berkson, Earl	907	Paschke, W. L.	9151
Hackenbroch, Wolfgang	9150		

46Lxx Rings and algebras of operators, with or without involution [For other algebraic systems of operators, see 47Dxx.]

### L05 $C^*$ -algebras (= $B^*$ -algebras) [See also 22D25.]

Barnes, Bruce A.	4157	Ferdizet, François	2486
Bunce, John	4159	Reid, G. A.	2490
Giles, R.; et al.	912, 2485	Sakai, Shōichirō	2491
Halpern, Herbert	5769	Sankaran, S.; et al.	2493
Huruya, Tadashi	7483	Selesnick, S. A.; et al.	2493
Kummer, Hans; et al.	912, 2485	Sinclair, A. M.	4164
Mosak, Richard D.	2096	Štern, A. I.	(3639)
Mosov, V. N.	7486	Ylinen, Kari	5775

L10 von Neumann algebras (= rings of operators,  $W^*$ -algebras)

Araki, Huzihiro	906	Maréchal, O.; et al.	5767
Berberian, S. K.	4158	Moskowitz, Martin; et al.	(6978)
Bures, Donald	*5765	Nielsen, Ole A.	7485
Ching, Wai-mee; et al.	910	Ovcinnikov, V. I.	4163, 7487
Connes, Alain	2483, 4160	Pearcy, Carl; et al.	4186
Cuculescu, I.	2484	Sakai, Shôichirô	2492
Dauns, John	4161	Schaeffer, David G.	5563
Dixmier, J.; et al.	5767	Sul'man, V. S.	7488
Douglas, R. G.; et al.	4186	Takai, Hiroshi	9152
Greenleaf, Frederick; et al.	(6978)	Takemoto, Hideo	4166
Halpern, Herbert	5768	Teleman, Silviu	9153
Kadison, Richard V.; et al.	5772	Tomiya, Jun	7489
Kastler, Daniel; et al.	5772	Vesterström, Jørgen	5774
de Korvin, Andre	913	Willig, Paul; et al.	910
Mackey, George W.	2095		

## L15 Nonselfadjoint operator algebras on Hilbert space

Davies, E. D.	5766	Ramer, Roald; et al.	5771
de la Harpe, Pierre	4162, 5770	Reed, Michael G.	2489
de la Harpe, Pierre; et al.	5771		

## L20 Operator algebras on Banach and linear topological spaces

Pietsch, Albrecht	2487	Stephani, Irmaud	2488
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## L25 Dual spaces of operator algebras and topological groups

Miličič, Dragan	7484	Wood, Geoffrey V.	3640
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## L99 None of the above, but in this section

Arveson, William	7503	Pearcy, Carl; et al.	909
Brown, Arlen; et al.	909	Salinas, Norberto; et al.	909
Dixon, P. G.	911	Spain, P. G.	914
Harrison, K. J.	940	Sullivan, W. G.; et al.	4165
Joseph, A.; et al.	4165	Sul'man, V. S.	915
Hapiłowski, Kazimierz	5773	Turner, T. Rolf	952

## 46Mxx Categorical methods (See also 18-XX.)

## M05 Tensor products

Dauns, John	4161	Rigelhof, Roger	2412
Huruya, Tadashi	7483	Saeki, Sadahiro	7479
Jha, Kamal Kant	5701	Takenaka, Shigeo	7433
Johnson, J. A.	9104	Tomásek, Stanislav	7434

## M10 Projective and injective objects

Geller, V. A.	4095	Palamodov, V. P.	2442
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## M15 Functors

Pietsch, Albrecht	2487	Popa, Nicolae	889
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## M99 None of the above, but in this section

Dubuc, Eduardo J.; et al.	4147	Forta, Horacio; et al.	4147
Helemskiĭ, A. Ja.	4148	Sankaran, S.; et al.	2493
Janovitz, M. F.	4149	Selensnick, S. A.; et al.	2493
Merucci, Claude	5743	Semadeni, Zbigniew	*5730
Peetre, Jaak	968		

## 46N05 Miscellaneous applications of functional analysis

Aggéri, J. C.	9155	Mitter, Sanjoy; et al.	1011
Al'ber, Ja. I.	4238	Mosco, Umberto	7560
Aubin, Jean-Pierre	9156	Nazarov, I. N.	4169
Baranger, Jacques	9157	Riemersma, W.	9159
Bulavskii, V. A.; et al.	4121	Rubinstein, G. S.; et al.	4121
Citlăndre, K. E.	9158	Sikiriavii, V. Ja.	931, 932
Daniljuk, I. I.	2749	Simionescu, Claudia	5605
Delfour, Michel; et al.	1011	Tan, Kok-keong	4237
Fuchsteiner, B.	5777	VaInberg, M. M.	1016
Kramer, Edvard	468	Vasil'ev, A. I.	2500
Kreith, Kurt	2295	Vasil'ev, V. A.	4122
Lindahl, R. J.; et al.	916	Wolfe, Peter	991
Maserick, P. H.; et al.	916	Zaidman, S.	917

## 47-XX OPERATOR THEORY

## 47Axx Single linear operators: general theory

## A10 Spectrum, resolvent, numerical range

Baxley, John V.	7496	Miličič, Dragan; et al.	7500
Bouldin, Richard	2501	Mirmans, B.	922
Esaĵan, A. R.; et al.	2510	Nakamoto, Ritsuo; et al.	935
Puruta, Takayuki; et al.	935	Nikol'skii, N. K.	5792
Gasanov, B. B.	9170	Sul'man, Ju. L.	9177
Guillemin, Jean Pol	5789	Urošidinov, H. M.; et al.	2510
Inin, O. T.	9172	Veselić, Kresimir; et al.	7500
Lehmann, H. Joachim	(7965)		

## A15 Invariant subspaces

Apostol, Constantin	933	Korenbljum, B. I.	4189
Arveson, William	7503	Masuda, Kyôya	4190
Bernstein, Allen R.	4185	Nikol'skii, N. K.	7504
Brodskiĭ, V. M.; et al.	2513	Pearcy, Carl; et al.	4186
Daniel, Victor W.	939	Sherman, Malcolm J.	951
Douglas, R. G.; et al.	4186	Stampfli, Joseph O.	5793
Dubois, Gérard	4187, 4188	Sul'man, V. S.	7488
Foias, Ciprian	2516	Švarcman, Ja. S.; et al.	2515
Hachvić, V. A.	2517	Zeitlin, Joel	(6980)
Harrison, K. J.	940		

## A25 Spectral sets

Stampfli, J. G.	4182
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## A30 Norms (inequalities, more than one norm, etc.)

Eslepen', S. A.	(4681), (4682)
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## A35 Ergodic theory [See also 28A65.]

McCabe, Robert; et al.	947	Shields, Paul; et al.	947
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## A40 Scattering theory [See also 35J10.]

Baumgärtel, Hellmut	955	O'Carroll, Michael	5803
Belopol'skiĭ, A. L.	956	Favlov, B. S.	9185
Birman, M. S.	957	Halston, James V.	3963
(Birman, M. S.)	*9187	Šabat, A. B.	5577
Buzlaev, V. S.	2524	Skriganov, M. M.; et al.	9183
Deĭč, V. G.	7515	Štefenko, A. V.	4205
Lowland, James S.	9181	Mathematical physics	*9187
Lavine, Richard B.	9182	Problems of mathematical	
Lundina, D. S.	7158	physics	*9187
Matveev, V. B.; et al.	9183	Spectral theory	*9187

## A45 Canonical models for contractions and nonselfadjoint operators

Eckstein, George	7507	Nikol'skii, N. K.; et al.	7509
Foias, Ciprian; et al.	950	Pavlov, B. S.; et al.	7509
Nelson, Henry	5797	Sahnović, L. A.	7510
Lambert, Alan	4196	Sherman, Malcolm J.	951
Nikol'skii, N. K.	948	Sz.-Nagy, Béla; et al.	950

## A50 Equations involving linear operators

Boudisou, Claude	2502	Mosolov, B. G.	2507
Čarunov, V. D.	9160	Mosolova, S. S.	2508
Gabib-zade, A. E.	5778	Ramekis, S. B.	2509
Garcenjuk, I. F.	9161	Vaarmann, O.	9164
Gasyimov, M. G.	7497	Varga, László; et al.	7490
Krackovskiĭ, S. N.	2505	Vasin, V. V.	5780
Kunkaitė, B. I.	2506	Vinokurov, V. A.	5781
Marton, K.; et al.	7490		

## A55 Perturbation theory

Baumgärtel, H.	2523	Lin, Sue-chin	5802
Bisoli, Marco	7514	Loginov, B. V.	7516
Bobisud, L.; et al.	3981	Markus, A. S.	2527
Cannon, John T.	2525	Muratov, Ju.; et al.	9184
Galete, V. O.; et al.	5788	Nikol'skaja, L. N.	4181
Herish, R.; et al.	3981	Sahirov, T.; et al.	9184
Hégh-Krohn, Raphael; et al.	2528	Simon, Barry	9186
Hughes, Edward	958	Simon, Barry; et al.	2528
Kacnel'son, V. B.; et al.	5788	Stummel, Friedrich	959, 960
Libin, A. S.	2526		

## A60 Functional calculus

Berezin, F. A.	929, 9169	Marte, Robin	7471
Chernoff, Paul R.	4193	Lay, David; et al.	936
Förster, Karl-Heinz	5787	Salehi, Habib	9176
Grabner, Sandy	2513	Taylor, Angus E.	4183
Gramsch, Bernhard; et al.	936	Vasilescu, F.-H.	4184

## A65 Structure theory

Adams, V. M.; et al.	7505, 7506	Millman, V. D.	4202
Arov, D. E.; et al.	7505, 7506	Mogul'skiĭ, E. Z.; et al.	4198
Berezanskiĭ, Ju. M.; et al.	9178	Nikol'skiĭ, N. K.	9179
Berkson, Earl	4191	Ovčarenko, I. E.; et al.	9180
Dubovoi, V. K.	5795, 5796	Radičevskiĭ, G. V.	4200
Fillmore, P. A.; et al.	2518	Schmitzky, Alan; et al.	2521
Gohberg, I. C.; et al.	2519	Siffrin, S. M.; et al.	9178
Krein, M. G.; et al.	7505, 7506	Skordev, Dimit'r	7502
Kurpas, Svetoslav	7508	Turner, T. Rolf	952
Leitner, Jürgen; et al.	2519	Williams, J. P.; et al.	2518
Maceas, V. I.; et al.	4190	Wüst, Rainer	4201
McNabb, Alex; et al.	2521	Zlatkis, Ju. A.; et al.	9180

## A70 Eigenfunction expansions, rigged Hilbert spaces

Gasyimov, M. G.	7498	Thoe, Dale; et al.	3978
Shenk, Norman; et al.	3978		

## A99 None of the above, but in this section

Dehen, Michèle	2434	Nikol'skaja, L. N.	4181
van Dulst, D.	2504	Patel, S. M.; et al.	4170
Eisenfeld, J.	5786	Petek, P.; et al.	9163
Embry, Mary R.	942	Ramanujan, P. B.; et al.	4170
Fakhoury, Nihum	858, 859	Ribaric, M.; et al.	9163
Gustafson, Karl	4180	Ruckle, William H.	868
Hacić, O.	7230	Saakjan, R. S.	7162, 7163
Irwin, M. C.	9162	Solomonov, V. A.	924
Lee, Matthew C. Y.	5798	Sundaresan, K.	925
Mačugo, M. D.	(6147)	Whitley, Robert	4173
Morozov, V. A.	923	Yang, Y. S.	5782
Rajzar, K.	7491	Zenf, P.	9165

## A7Bxx Single linear operators: special classes of operators

## B05 Compact operators, Riesz operators

Holmes, Richard B.; et al.	5718	Randke, Daniel J.	4203
Holub, J. R.	2522	Tersioğlu, T.	954
Kriks, Bernard R.; et al.	5718	Tong, Alfred E.; et al.	9106
Murphy, I. S.	7513	Wilken, Donald R.; et al.	9106
Nguyen Phung Cúc	5800	Zeidler, Eberhard	5801
Ovčinnikov, V. I.	4163		

## B10 Hilbert-Schmidt operators, trace class operators, nuclear operators, etc.

Brown, Arlen; et al.	909	Pearcy, Carl; et al.	909
Carling, D. J. H.	7427	Pietsch, Albrecht	2487
Holub, J. R.	953	Retherford, J. R.; et al.	867
Holub, J. R.; et al.	867	Salinas, Norberto; et al.	909
Maceas, V. I.; et al.	7512	Saphar, Pierre	5779
Marquis, A. S.; et al.	7512	Stephani, Irmaud	2488
Merrucci, Claude	5743	Tong, Alfred E.	4204

## B15 Hermitian and normal operators (spectral measures, functional calculus, etc.)

Embry, Mary R.	942	Schreiber, Bert M.; et al.	2409
Ito, Takashi; et al.	2409	Simon, Barry; et al.	9175
Reed, Michael C.; et al.	9175		

## B20 Subnormal operators, hyponormal operators, etc.

Ando, Tsuyoshi; et al.	5794	Putnam, C. R.	938, 4199
Clancey, K. P.; et al.	934	Putnam, C. R.; et al.	934
Istrătescu, Vasile I.	944	Suzuki, Teruo; et al.	5794
Malviya, B. D.	946a-b	Tam, P. K.	7511

## B25 Symmetric and selfadjoint operators (unbounded)

Gilbert, Richard C.	4179	Langer, H.	5791
Kogan, V. I.	4195	Rjabova, V. M.	7501

## B35 Toeplitz operators, Wiener-Hopf operators (For other integral operators, see also 47005.)

Fel'dman, I. A.	4222	Leitner, Jürgen; et al.	2519
Gohberg, I. C.; et al.	918, 2519	Levchenko, V. I.; et al.	918
Goor, Robert	2520	McNabb, Alex; et al.	2521
Klein, E. M.	5784	Schmitzky, Alan; et al.	2521

## B40 Spectral operators

Dubois, Gérard	4187, 4188	Kritt, Brian	2514, 5790
Fel'dman, G. M.	(2093)	Tsafriri, L.; et al.	943
Fixman, U.; et al.	943		

## B44 Dissipative operators

Chernoff, Paul R.	5804		
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## B47 Commutators

David, Mendel	941	Förster, Karl-Heinz	5787
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## B50 Operators on a space with an indefinite metric

Lander, F. I.	4197	Masuda, Kyūya	4190
Langer, Heinz	937	Šul'man, V. S.	915

## B55 Operators on ordered spaces

Bers, Edgar	5708	Muhtarov, S. N.	926
Esajan, A. R.; et al.	2510	Pokornyĭ, Ju. V.; et al.	928
Krasnosel'skiĭ, M. A.; et al.	928	Samadov, K.	927
Lee, John Walter	5783	Schröder, Johann	7492
Lifšic, E. A.	4174	Srožiddinov, H. M.; et al.	2510
		Zabreĭko, P. P.; et al.	928
		Zijaudinov, M. D.	7493, 9166

## B99 None of the above, but in this section

Al'ber, Ja. I.	7557	Korotkov, V. B.; et al.	9167
Aubin, Jean-Pierre	4141	Kummer, Hans; et al.	912
Bassanini, Piero	7558	Lambert, Pol V.	2512
Berezin, F. A.	929	Leach, E. B.; et al.	2471
Berkolaiko, M. Z.; et al.	4176	Ledrappier, François	5785
Birrell, Marco	9225	Lewis, Paul W.; et al.	7494
Brooks, James K.; et al.	7494	Lindahl, R. J.; et al.	916
de Bruyn, G. F. C.	5698	Loginov, B. V.	7499
Campbell, Stephen L.	4192	Maserick, P. H.; et al.	916
Cnop, Ivan; et al.	4152	Mitter, Sanjoy; et al.	1011
Crone, Lawrence	2503	Mosco, Umberto	7560
Davie, A. M.	9141	Magnitida, M. I.	4135, 4136
Davies, E. B.	5766	Nguyen Phung Cúc	5719
De Grande-De Kimpe, H.4091	4177	Ovčinnikov, V. I.	7487
Delfour, Michel; et al.	1011	Plotkin, A. I.	9168
Diestel, J.	930, 2511	Porter, William A.	7561
Dixon, F. G.	911	Posnjak, L. T.	9174
Fefferman, Charles	5661	Rabinovič, A. B.	5842
Ferrier, Jean-Pierre; et al.	4152	Račinov, Ivan	7495
Foias, Ciprian; et al.	4194	Rao, Murali	2458
Gabaso, R.; et al.	7559	Rutickiĭ, Ja. B.; et al.	4176
Giles, R.; et al.	912	Sabirov, I.	2448
Globenko, I. G.; et al.	9167	Salimov, Ja. Š.	7473
Gorjuk, I. V.	9171	Sarason, Donald	4156
Gretsky, N. E.; et al.	4178	Schechter, Martin	4171
Halmos, P. R.	919	Sekieru, I. V.	4175
de la Harpe, Pierre	4162	Sikiričević, V. Ja.	931, 932
Hess, Peter	920	Šmul'jan, Ju. L.	949
Hirsch, Francis	921	Strelcyn, J.	4172
Holub, J. R.	4124	Sullivan, W. G.; et al.	4165
Münlich, Rolf	(4617)	Tel'ner, K.	5799
Hunt, Charles	9226	Tong, A. E.	5722
Joseph, A.; et al.	4165	Uhl, J. J., Jr.; et al.	4178
Keldys, M. V.	9173	Whitfield, J. H. M.; et al.	2471
Khanh, Bui Doan	945	Williams, J. P.; et al.	4194
Kirillova, F. M.; et al.	7559		

## 47Cxx Single linear operators as elements of algebraic systems

## C15 Operators in von Neumann algebras

Mackay, George W.	2095		
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## C99 None of the above, but in this section

Maurin, K.; et al.	458	Maurin, L.; et al.	458
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# 47Dxx Algebraic systems of linear operators (For rings and algebras of operators, see 46Kxx, 46Lxx.)

## D05 Semigroups of operators (For Markov processes, see 60Jxx.)

Biroli, Marco	7514	Kato, Tosio	2531
Brezis, H.; et al.	2529	Konishi, Yoshio	963
Buchs, A. B.	961	Kraljević, Hrvoje; et al.	9190
Chernoff, Paul R.	5804	Kurepa, Svetozar; et al.	9190
Chernoff, Paul R.; et al.	7517	Martin, Robert H., Jr.	7519
Cooper, Jeffrey M.	7322	Masani, P.	7520
Daleckiĭ, Ju. L.; et al.	3982	Miyadera, Isao	5805
Ditsian, Z.	7518	Neuberger, J. W.	964
Donaldson, J. A.	753	Ouchi, Sunao	7465
Fadeeva, E. A.; et al.	3982	Pazy, A.	965
Fattorini, H. O.	2309	Pazy, A.; et al.	2529
Fisher, Michael J.	9188	Piech, M. Ann	4209
Gajewski, Herbert	2530	Pinsky, M.; et al.	4206
Goldstein, Jerome A.; et al.	7517	Roth, Jean-Pierre; et al.	9189
Hersh, E.; et al.	4206	Simon, Jacques	2532
Hirsch, Francis	4207, 4208	Suzuki, Hiroyuki	966
Hirsch, Francis; et al.	9189	Takahashi, Wataru	5317
Iooss, Gérard	962a-b	Voslamber, Dietrich	967
Jayachandran, Toka; et al.	6972	Westphal, Ursula	5806
Kantorovitz, Shmuel	9137	Wilde, Carroll; et al.	6972

## D10 Groups of operators

de la Harpe, Pierre; et al.	2758	Rasner, Roald; et al.	2758
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## D99 None of the above, but in this section

Akçoglu, M. A.; et al.	7016	Peetre, Jaak	968
Chacon, R. V.; et al.	7016	Scheffold, Egon	874
Horowitz, S.	5319		

# 47E05 Ordinary differential operators (See also 34B25, 58Pxx.)

Alenicyū, A. G.	969	Müller-Pfeiffer, E.	4211
Barston, E. M.	9191	Mal'mark, M. A.	7159
Buslaeva, M. V.	9192	Mecas, Jindřich; et al.	970
Dagutis, Ju. E.; et al.	7521	Hiessem, H.-D.; et al.	5452
Devins, Allen	7154	Perov, A. I.; et al.	5489
Dražadov, M. O.; et al.	5807	Persidskiĭ, G. K.	3903
Fomin, V. N.	688	Ramm, A. G.	5523
Gasyimov, M. G.; et al.	5807	Roitenberg, E. Ja.	689, 690
Goldberg, Seymour; et al.	9193	Rollins, L. W.	971
Gorbacuk, M. L.; et al.	9194	Sargajan, I. S.; et al.	8911
Gorbacuk, V. I.; et al.	9194	Schäffer, J. J.	686
Korobeinik, Ju. F.	4210	Schneider, A.; et al.	5452
Kratochvíl, Alexandr; et al.	970	Strelitas, Š.; et al.	7521
Lee, John Walter	5451	Suchowel, Jaromír	628
Levitán, B. M.; et al.	8911	Ta Kuang Hai; et al.	5489
Malgrange, Bernard	2234	Voropaeva, G. A.	9196
Maslov, V. P.; et al.	9195	Voropaeva, G. A.; et al.	9195
Meir, A.; et al.	9193	Welch, John N.	4212

# 47F05 Partial differential operators (See also 35Pxx, 58Oxx.)

Alimov, Š. A.; et al.	7522, 9199, 9200	Goodman, Roe	2102
Antonič, A. B.	5808	Goulaouic, C.; et al.	7523
Bagirov, L. A.	5809	Greenfield, Stephen J.; et al.	5568
Bacouendi, M. S.; et al.	3932, 7523	Grubb, Gerd	7525, 7526
Barkovskiĭ, V. V.	972	Guillemot-Teissier, Marianne	
Biroli, Marco	9197	Hamraev, K.; et al.	4214
Bratus', A. S.	5810	Hörmander, Lars	3917
Carroll, R.; et al.	5612	Il'in, V. A.; et al.	7522, 9199, 9200
Černyšev, G. L.	5573	Jerome, Joseph W.	(5642)
Chassaraín, Jacques	2308	Judović, V. I.	744
Coburn, D. K.	5811	Korobeinik, Ju. F.; et al.	5816
Deĭč, V. G.	2533	Lando, Ju. K.	2534
Demchenko, T. I.; et al.	5816	Lions, J. L.; et al.	*975
Donaldson, Thomas	7524	Lions, Jacques-Louis	3303a-c, 2313
Dubinskii, Ju. A.	5812	Magenes, F.; et al.	975
Egorov, Ju. V.	5541	Makusov, P. G.; et al.	7282
Fan Ngok Thao	5813	Naz'ja, V. G.; et al.	974
Foias, Ciprian	973	Nazmadar, T.	5612
Fokin, M. V.	9198	Mišin, V. G.	9201
Frankel, L. E.	3904	Morimoto, Hiroko; et al.	5814
Fujita, Hiroshi; et al.	5814	Morjakov, V. V.	4215
Gel'man, I. V.; et al.	974	Muregan, A.	7527
Geymonat, G.; et al.	3932		
Goldstein, Charles	5815		
Goličev, I. I.	4213		

Mišnik, L. P.	5817	Simonenko, I. S.	4218
Pastur, L. A.	5818	Šubin, M. A.	7529
Prikaznikov, V. G.	9202	Tayoshi, Takao	4219
Randol, Burton	5659	Teman, Roger	3907
Roitberg, Ja. A.	9203	Uglanov, A. V.	5819
Rosenbljum, G. V.	4216	Unterberger, André	7254, 7255
Sauer, Niko; et al.	7310	Vainberg, B. R.	7530
Saut, Jean-Claude	716	Walker, Homer F.	976
Schaeffer, David G.	5563	Wallach, Nolan R.; et al.	5568
Schmincke, Upke-Walther	7306	Wilcox, Calvin H.; et al.	4217
Schönbeck, Tomas P.	7528	Yoshikawa, Atsushi	7531
Schulenberg, John R.; et al.	4217	Zuhovickaja, E. S.	5820

# 47G05 Integral, integro-differential, and pseudo-differential operators (See also 35Sxx, 58Gxx.)

Bil'man, B. M.	5821	Krupnik, N. Ja.; et al.	980, 981, 4223
Bleher, P. M.; et al.	5829	Kumano-go, Hitoshi	984
Bljumin, S. L.; et al.	4220	Kusnecov, W. G.	9208
Brascamp, H. J.	977	Mačvariani, I. D.	4224
Bratus', A. S.	9204	Makanina, T. A.	4225
Buhgeis, A. L.	5822	Magnase, Michihiro; et al.	985
Busty, Robert C.; et al.	4167	Meri, Umberto	4226
Calderón, Alberto P.; et al.	7532	Murkenov, T. K.	4227
Can Zulf Ho; et al.	7533	Rabinovič, V. S.	986, 5825
Ching, Chin-hung	5823	Roitburd, V. L.	2536
Chisholm, R. S.; et al.	4221	Rovnyak, James	987
Daniel, Victor W.	939	Sanko, S. G.; et al.	9207
Denčov, Račo	978	Schochetman, Irwin; et al.	4167
Dudučava, R. V.	5824	Schwabik, Štefan	2537
Dunkl, Charles F.	2496	Segovia, C.; et al.	2538
Ebersold, Franz	9205	Senenul, A. A.	988
Ellis, David	7534	Shinkai, Kenzo; et al.	985
Evkin, G. I.; et al.	7533	Sjöstrand, Johannes	989
Everitt, W. N.; et al.	4221	Smith, Harvey A.; et al.	4167
Fel'dman, I. A.	4222	Spigel', E. M.	5826
Prolov, V. D.	979	Sudakov, V. N.	990
Gohberg, I. C.; et al.	980, 981, 4223	Treves, François	5570
Grušin, V. V.	5542	Vaillancourt, Rmi; et al.	7532
Hlaváček, Ivan	9206	Vasilievskiĭ, N. L.	5827
Holub, J. R.	2522	Višik, M. I.	5828
Juberg, R. K.	982	Višik, M. I.; et al.	5829
Kac, I. S.	7535	Walsh, T.	9209
Karapet'janc, N. K.; et al.	9207	Wheeden, R. L.; et al.	2538
Kokilasvili, V. M.	2535	Wolfe, Peter	991
Kotljar, B. D.; et al.	4220	Zaidman, S.	9210
Kravchenko, V. G.	983		

## 47Hxx Nonlinear operators

### H05 Monotone operators

Brenis, HaIm	992	Karčevskiĭ, M. M.	(2911)
Gossez, Jean-Pierre	7544	Ton, Bui An	2543

### H10 Fixed point theorems

Bahtin, I. A.	7550	Hausbaum, Roger D.	5839, 7554
Belova, R. V.	4234	O'Neil, T.; et al.	7555
Browder, Felix E.	2545	Petryshyn, V. V.	1008
Burd, V. S.; et al.	*7183	Royalty, W. D.; et al.	1007
Calvert, Bruce D.	1130	Sedovskii, B. N.; et al.	2546
Cellina, Arrigo	4235	Sapronov, Ju. I.	1009
Clark, David C.	5836	Singh, K. L.	2689, 5988
Detsen, W. G., Jr.	5837, 7551	Skripnik, I. V.	5840
Eidelstein, Michael	1005	Suvorov, S. G.	5841
Fukushima, Hiroshi	7697	Svaminathan, S.; et al.	4236
Goebel, K.; et al.	7552	Tan, Kok-keong	4237
Hanspeter, Bieri	7430	Thomas, J. W.	2690
Johnson, Gordon G.	1006	Thomas, J. W.; et al.	7555
Kirk, W. A.	7553	Thompson, A. C.; et al.	4236
Kirk, W. A.; et al.	1007, 7552	Vainikko, G. M.; et al.	2546
Kolesov, Ju. S.; et al.	*7183	Vignoli, Alfonso	1010
Krasnosel'skiĭ, M. A.; et al.	*7183	Webb, J. R. L.	2544
Lin'kov, E. I.	9222	Wong, Chi Song	2691
Neelis, Dominique	9223	Wong, James S. W.	1147
Mill'man, D. P.	5838	Zecca, Pasquale	9224
		Zeidler, Eberhard	7556

### H15 Equations involving nonlinear operators

Aasrov, Ja.	2539	Berger, Melvyn S.	7537
Atouch, Hedy	2540	Bickart, Theodore A.; et al.	4228
Asimov, T. B.	5830	Bidaut, Marie-Françoise	7538
Barba, Viorel	2541, 7536	Burmeister, W.	9213
Barklon, L. I.	5483	Černyšenko, V. M.; et al.	(7968)
Bénilan, Philippe	9212	Cooper, J. M.	993, 7322

## H15 Continued

Crandall, M. G.; et al.	9214	Lovelady, David Lowell	7548
Dubinskii, Ju. A.	994	Martin, R. H., Jr.	4231
Eleniskii, Ju. W.	7539-7541	McDermott, Terrence S.	997
Fabry, C.	5832	Mika, Janusz	9219
Fedorenko, Ju. D.	(1909)	Ogneva, V. A.; et al.	(1968)
Gajewski, Herbert	2530	Okinšević, I. H.	(1979)
Gogusdz, D. F.	7542, 7543	Oršinnikov, V. I.	998
Grin', A. H.	995	Pazy, A.; et al.	9214
Gross, S.; et al.	7545	Petryshyn, W. V.	999
Herod, J. V.	996	Pokrovskii, A. V.; et al.	1004
Hess, Peter	7546	Poljak, B. T.	2547
Ibragimov, B. I.; et al.	1323	Povolockii, A. I.; et al.	4233
Iooss, Gérard	5833	Prada, Guillermo; et al.	4228
Isaev, D. A.; et al.	7323	Safiev, R. A.; et al.	(2912)
Jankó, B.; et al.	7545	Showalter, R. E.	2342
Kamelin, V. V.	5441	Skripnik, I. V.	5834, 7549
Kosichii, M. E.	9215	Sova, Miroslav	1000
Krasnosel'skii, M. A.; et al.	1004	Stakgold, Ivar	1001
Krasnosel'skii, V. M.	9216	Tenam, R.	1000
Krikorian, Nishan	4144	Ton, Bui An	9220
Laurent'ev, I. M.; et al.	5835	Vaarmann, O.	1003
Lika, D. K.	4229, (7977)	Vainberg, M. M.; et al.	5835
Lika, D. K.; et al.	(2912)	Vinokurov, V. A.	4232
Litvinov, V. G.	7547	Zabreiko, P. P.; et al.	1004, 4233
Ljapun, L. M.	4230		

## H99 None of the above, but in this section

Al'ber, Ja. I.	4238	Marti, J. T.	9218
Batt, Jürgen	5831	Miyadera, Isao	5805
Bazaraa, M. S.; et al.	9211	Maahed, M. Z.; et al.	9211
Böhme, Reinhold	2542	Neuberger, J. W.	964
Brezis, H.; et al.	2529	Nurekenov, T. K.	4227
Fougères, Alain	1012	Pazy, A.	965
Gabdulhaev, B. G.	(4577)	Pazy, A.; et al.	2529
Goode, J. J.; et al.	9211	Poll, V.; et al.	9221
Konishi, Yoshio	963	Ulm, S.; et al.	9221
Marcenko, E. N.; et al.	9217	Westphal, Ursula	5806
Marcenko, N. V.; et al.	9217	Zeidler, Eberhard	5801
Markus, A. S.	2527		

## 49-XX CALCULUS OF VARIATIONS AND OPTIMAL CONTROL (See also 34H05, 93Exx.)

## -02 Advanced exposition (research surveys, etc.)

Proc. Seminar, Kiev, 1968	Theory of optimal solutions
*1652-1654	*1652-1654

## 49Axx Existence theory for optimal solutions

## A05 Free problems in one independent variable

Amdursky, V.	1013	McDanell, J. P.; et al.	3111
Berliocchi, Henri; et al.	1014	Wazrov, H. A.; et al.	
Brusch, Richard G.; et al.	4241		5937, 5938
Hildebrandt, Stefan	1015	Powers, W. F.; et al.	3111
Ivanova, G. P.	1020	Satimov, N.; et al.	5937, 5938
Jacobson, D. H.	3110	Vincent, Thomas L.; et al.	4241
Laury, Jean-Michel; et al.	1014		

## A10 Problems involving ordinary differential equations

Anderson, J. H.	1639	Kiselev, Ju. H.	3102
Anderson, M.; et al.	7151	Leitmann, G.	4246
Andreev, V. A.	8343	Leitmann, G.; et al.	9233
Arthurs, A. M.; et al.	7150, 7151	Miročnik, L. Ja.	8912
Bolonkin, O. O.	7560	Mol, A. M.; et al.	8350
Čeklov, M. S.	1018	Mordukhovič, B. S.	5521
Cikharidze, N. V.	3105	Niemann, R. A.	4247
Coles, C. W.; et al.	7150	Porter, William A.	7561
Étienne, J.; et al.	8350	Stalford, H.; et al.	9233
Filippov, A. F.	7142	Winand, J. P.; et al.	8350
Hall, R. R.; et al.	7151		

## A15 Free problems in two or more independent variables

Basalix, B. V.; et al.	4242	Oğüstöreli, Mehmet Namik	3112
Daniljuk, I. I.; et al.	4242		

## A20 Problems involving partial differential equations

Gasanov, K. K.	5846	Santagati, G.	4249
Jakovlev, G. H.	5741		

## A50

## A25 Problems in abstract spaces

Bidant, Marie-Françoise	7538	Ramazanov, M. D.	6214
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## A30 Problems involving functional relations other than differential equations

Ahmedov, K. T.; et al.	9227	Levin, V. L.; et al.	1017
Arkin, V. I.; et al.	1017	Nikol'skii, M. S.	8355
Begališvili, G. M.	757	Poddubnyi, V. V.	4248
Érendieva, O. A.; et al.	9227	Strohmeier, Alfred	1022
Jagubov, M. A.; et al.	9227		

## A35 Optimal solutions belonging to restricted classes (bang-bang controls, etc.)

Niva, Toshio	1649		
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## A50 Topology of solutions, weak and strong minima, semicontinuity, convexity, orientor fields

Barbieri, Francesco	2548	Gilbert, E. G.; et al.	4866
Berkovitz, Leonard D.; et al.	4244	Morozov, S. F.	9230
Bittner, L.	(2893)	Pollard, Harry; et al.	4244
Cesari, L.	4239	Silverman, Edward	5844
Funk, J. E.; et al.	4866	Vainberg, M. M.	1016

## A99 None of the above, but in this section

Baranger, Jacques	9157	Kuznetsov, Ju. I.; et al.	4869
Das, P. C.; et al.	6489	Rabinovic, A. B.	5842
Fedorov, A. V.; et al.	4868, 4869	Sharma, R. R.; et al.	6489
Gabasov, R.; et al.	7559	Slin'ko, M. G.; et al.	4868, 4869
Kirillova, F. M.; et al.	7559		

## 49Bxx Necessary conditions and sufficient conditions for optimality

## B05 Free problems in one independent variable

Albrecht, J.; et al.	7562	Košelev, V. M.	9229
Chung, D. H.; et al.	4245	Lee, E. B.; et al.	4245
Glaser, W.; et al.	7562		

## B10 Problems involving ordinary differential equations

Klötzler, Rolf	8011	Troickii, V. A.	7571
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## B25 Problems involving partial differential equations

Ekeland, I.	1019	Sumin, V. I.; et al.	8356
Plotnikov, V. I.; et al.	8356		

## B30 Problems in abstract spaces

Bolonkin, A. A.	(6163)	Virsan, C.	9234
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## B35 Problems involving functional relations other than differential equations

Ahiev, S. S.; et al.	8341	Fedorenko, R. P.	9762
Ahmedov, K. T.; et al.	8341	Virsan, C.	8361

## B40 Minimax problems

Evtušenko, Ju. G.	(6166)		
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## B99 None of the above, but in this section

Čečel'nickii, A. M.	9760	Stalford, H.; et al.	7569
Leitmann, G.; et al.	7569	Stalford, Harold	7570
Oğüstöreli, Mehmet Namik	9765		

## 49Cxx Carathéodory Hamilton-Jacobi theories, including dynamic programming

## C05 Free problems and problems involving ordinary differential equations

Grässer, H. S. P.	9228		
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- C10 *Free problems and problems involving partial differential equations*
- Klötzler, Rolf 2549 Lipshitz, S. F. 2551
- C15 *Problems in abstract spaces or involving functional relations other than differential equations*
- Bittner, L. 5843 Zimmermann, Karel 3060
- 49Dxx *Methods of successive approximations*
- D10 *Methods of steepest descent type*
- Beckert, H. 4243 Nikolaev, E. G. (9460)
- D25 *Finite difference methods*
- Andersen, R. S. (6205) Tevzadse, T. D. 4870
- D30 *Other methods, not based on necessary conditions (penalty function, etc.)*
- Nahra, John E. 9764 Poljak, B. T. 2547
- D99 *None of the above, but in this section*
- Fedorenko, R. P. 3107 Kirillova, F. M.; et al. 1642  
Gabasov, R.; et al. 1642
- 49Exx *Controllability and geometry of control problems*
- E05 *General dependence on controls*
- Murat, François 2552
- E15 *Attainable sets, controllability*
- Dauer, Jerald P. 9232 Hájek, Otomar 5848  
Elliott, David L. 6030 Harasty, Gerald; et al. 1644  
Gilbert, Elmer G.; et al. 1644 Levitin, A. V. 1021
- E25 *Effect of perturbations on controllability*
- Bistrickas, V. 6488
- E99 *None of the above, but in this section*
- Leitmann, G. 5849
- 49Fxx *Manifolds*
- F05 *Exterior differential forms, invariant integrals (Cartan theory) [See also 58A15.]*
- Dumkin, V. V.; et al. 5913 Gusman, S. Ja.; et al. 5913  
Graifer, L. B.; et al. 5913
- F10 *Minimal surfaces*
- Giusti, Enrico 1051 Spruck, Joel; et al. 7567  
Gulliver, Robert; et al. 7567 Steffen, Klaus 1050  
Souček, V. 5845
- F15 *Morse theory in Hilbert and other spaces [See also 58Exx.]*
- Daniljuk, I. I. 2749 Gregory, John 5847  
Geoghegan, Ross 4349
- F20 *Geometric measure and integration theory, integral and normal currents, flat chains and cochains, varifolds [See also 58A25.]*
- Andronikou, Anastasios; et al. 9231 Komorowski, J. 2550  
Asada, Akira 7702 Wright, Fred M.; et al. 9231
- F25 *Surface area*
- Fedorov, A. L. (7606) Hildebrandt, Stefan; et al. 5888  
Fomenko, A. T. 1199 Kaul, Helmut; et al. 5888
- 49Gxx *Variational methods and eigenvalues*
- G05 *Variational approach to eigenvalues*
- Herach, Joseph; et al. 4240 Monkevits, Martin; et al. 4240
- G20 *Linear operators in Hilbert spaces*
- Baumgärtel, H. 2523 Milota, Jaroslav 1373
- G99 *None of the above, but in this section*
- Hajnar, K. 7491
- 49H05 *Variational principles of physics [See also 70Hxx, 81A09.]*
- Bassanini, Piero 7558 Edelen, Dominic G. B. 7563-7566
- 50-XX *GEOMETRY (For algebraic geometry, see 14-XX.)*
- 00 *Difficult to classify at the second level*
- Evdokimov, A. A.; et al. (111) Lorenzen, Paul (\*23)  
Glagolev, V. V.; et al. (111)
- 50Axx *Foundations*
- A05 *Euclidean*
- Bandelow, Christoph (2074) LeYbin, A. S.; et al.  
Botz, Mihail St. 4254 (3402), (5130)  
Gemignani, Michael C. 4250 Matula, Jura; 4256  
Heymans, F. (5134) Ousilou, R. 5851  
Ignatenko, V. F.; et al. (3402), (5130) Stratopoulos, G. M.; et al. (5132)  
Wyllie, C. R., Jr.; et al. (5132)
- A10 *NonEuclidean*
- Rossi, Fabio 4268 Strambach, Karl 7572
- A15 *Transformation groups*
- Osipov, S. 5050 Timm, Jürgen; et al. 4251  
Heise, Werner; et al. 4251
- A20 *Algebraic characterizations [See also 06A75, 12K05, 16A76, 16A78, 16A80, 17D05, 17B05, 20H10.]*
- Arnold, Hans-Joachim 9235 Orbán, B. 4274  
Jung, Puanglada N. (3365) Pieper, Irene (3584)  
Mathiak, Karl 9245 Rakovec, Janez 1024
- A25 *Models [See also 02H15.]*
- Asenjo, F. G. (3190) Sullivan, Theodore P. 8516  
Benz, Walter 7578
- A99 *None of the above, but in this section*
- Frege, Gottlob \*6566 (Kluge, Elke-Henner W.) \*6566
- 50Bxx *Euclidean geometry (including equiform geometry)*



## B05 Constructions

Erastov, K. D.	4257	Hohenberg, Fritz	1026
Georgiev, Slavi	4258		

## B10 Metric formulas

Dunits, J. D.; et al.	5852	Thas, J. A.	7574
Harborth, Heiko	2553	Waser, J.; et al.	5852
Konnelly, Augustine O.	5853		

## B20 Geometry of circles

Buekenhout, Francis	7579	Powell, M. T.; et al.	9237
Subramanyam, S. S.	7573	Tyrrell, J. A.; et al.	9237

## B30 Regular figures, division of spaces [See also 20H15.]

Cometer, H. S. M.	4255	Usiskin, Zalman; et al.	9246
Meyer, W.; et al.	2569	Wayment, Stanley G.; et al.	9246
von Randow, H.; et al.	2569	Zenkin, O. V.	7003
Stammier, Ludwig	9236		

## B99 None of the above, but in this section

Davies, Roy O.	3662	Introducing young people to	
Matucci, Alpinolo	8488	scientific work (*6553, *6554)	
(Janic, Radovan R.) (*6553, *6554)			

## 50Cxx Other metric geometries

## C05 Elliptic and hyperbolic, general

Andalafte, Edvard Z.; et al.	2558	Heath, Steven H.	7584
Baumann, Heribert; et al.	1034	Kucinič, Branko	2557
Böhm, Johannes	9241	Schwabhauser, Wolfram;	
Bruno, Sergis R.; et al.	2561	et al.	1034
Gluskov, P. A. 5857, 5858, 9242a-b		Tallini, Giuseppe; et al.	2561
		Valentine, Joseph E.; et al.	2558

C15 Groups generated by elliptic and hyperbolic reflections  
[See also 20H10.]

Vinberg, E. B.	4261		
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## C20 Hyperbolic convexity

Milka, A. D.	4260	Weissbach, B.	4262
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## C25 Other metric geometries

Arapova, M. M.	2560	Zat'ko, Valent	2559
Mamedova, D. A.	7581, 7582		

## 50Dxx Geometries of other transformation groups

## D05 Affine geometry, general

Bruen, Aiden; et al.	1035	Raččinov, Ivan	9239
Fisher, J. Chris; et al.	1035	Rita, Giovanni	7575
Johnson, N. L.	5861	Snapper, Ernst; et al.	*9238
Kallaber, Michael J.	4266	Sullivan, Theodore F.	4253
Mavron, Vassili C.	4992a	Thas, J. A.	1027, 7587
Netusch, Rudolf	4252	Tomašić, Vesna	7591
Quaiser, Erhard	7589	Troyer, Robert J.; et al.	*9238
Quattrocchi, Pasquale	2565		

## D10 Affine geometry, subgroups (centro-affine, equiaffine)

Mokljak, A. P.	2589	Neifel'd, E. G.	1057
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## D20 Projective geometry over the reals

Bottoma, O.	1025	Maroscia, Paolo	7577
Dočkal, Ljerkka	7576	Neifel'd, E. G.	4297
Eneva, Gergana	1031	Sharifuddin, M.	2556
Eneva, Gergana; et al.	1030	Simmons, G. J.	4259
Geise, Gerhard	7580	Škopc, Zalman; et al.	1030
Griffith, G. J.	1032	Tschupik, Josef P.	5856
Loos, Cläre	2554	Villa, Marie	1033

## D25 Projective geometry over other infinite fields

Pernet, Roger	(6863)		
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## D30 Projective geometry over finite fields

Bartocci, U.; et al.	4269	Jung, Puanglada R.	4265
Brown, Julia M. Howlin	4271	Kantor, William M.	2568
Buekenhout, F.	1028	Maroscia, Paolo	5859
van Buggenbaut, Jean	2566	Martini, Giulia	2555
Cofman, Judith	2562	Neporožnev, I. P.	2564
Faulkner, John R.	4273	Norman, Christopher; et al.	4267
Ferri, Osvaldo	7583	Payne, Stanley E.	7586
Ganley, M. J.	2567	Picasso, E.	9244
Garardi, Mario	2563	Piper, Fred; et al.	4267
Hoffer, A. H.	4263	Segre, B.; et al.	4269
Jónsson, Wilbur	4264		

## D35 Projective geometry over combinatorial or nonfield structures

Abbasov, N. T.; et al.	9240	Johnson, Norman L.	5862
Artmann, Benno	4270	Joussen, Jakob	5863
Artay, H.	7588	Kirkpatrick, P. B.; et al.	*7590
Betten, Dieter	5860	Panela, Gianfranco	5864
Čabtauri, I. A.	1029	Room, T. G.	5865
Čabtauri, I. A.; et al.	9243	Room, T. G.; et al.	*7590
Demowski, Peter	4272	Rosati, Luigi Antonio	1037
Foulser, David A.	1023	Zamachovskii, M. F.; et al.	
Groh, Hansjoachim	1036		9240, 9243

## D40 Line geometry

Niče, Vilko	5855		
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## D45 Circles and sphere geometry: Lie, Laguerre, Möbius

Heise, W.	7585		
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## D50 Geometries of other space elements

Neifel'd, E. G.	5903	Niče, Vilko	5854
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## D99 None of the above, but in this section

Dou, Alberto M.	(6557)	Vinberg, E. B.	(8605)
Mavron, Vassili C.	4993b		

## 52-XX CONVEX SETS AND GEOMETRIC INEQUALITIES

## A05 Convex sets without dimension restrictions

Bair, Jacques	2573	Lay, S. R.	9248
Bryant, V. W.; et al.	5871	Mil'man, V. D.	2851
Hare, W. R., Jr.; et al.	1040	Sallee, G. T.	5873
Jamison, R. E.	2570	Stavrakas, M. N.; et al.	2570
Kenelly, John W.; et al.	1040	Webster, R. J.; et al.	5871
Lawrence, J. F.; et al.	1040	Zisler, Václav	1042

## A10 Convex sets in 2 dimensions

Brooks, Foster	7598	Koenen, William	5870
Evdokimov, A. A.; et al.	(111)	Zalgaller, V. A.	7597
Glagolev, V. V.; et al.	(111)		

## A15 Convex sets in 3 dimensions

Larman, D. G.	7600		
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## A20 Convex sets in n dimensions

Aitchison, P. W.; et al.	2572	Rogers, C. A.; et al.	2572, 2576
Boltjanskii, V. G.; et al.	1039	Soltan, P. G.; et al.	1039, 1041
Larman, D. G.	2575	Stavrakas, Wick M.	7601
Larman, D. G.; et al.	2576	Vasilov, A. D.; et al.	1041
Petty, C. M.; et al.	2572		

## A25 Convex polyhedra

Barnette, David	4275, 7592	Lindström, Bernt	4276
Berg, Christian	7593	Macdonald, I. G.	7594
Florian, A.	1038	Mani, F.	5867, 7595
Goodey, P. R.	5866	Murty, Katta G.	5868

## A25 Continued

- Salles, G. T. 5872  
 Shephard, G. C. 4277, 9247  
 Usiskin, Zalman; et al. (9246)
- Wayment, Stanley G.; et al. (9246)  
 Zaks, Joseph 5869, 7596

## A35 Helly-type theorems

- Oyárfás, A.; et al. 7602
- Lehel, J.; et al. 7602

## A40 Inequalities and extremum problems

- Arhangel'skiĭ, S. V. (9536)  
 Bandle, Catherine 7603, 7604  
 Barnett, David W. 7605  
 Carlits, L. 9249  
 Fedorov, A. L. 7606  
 Fefferman, Charles; et al. 2577  
 Fejes Tóth, L. 5874  
 Gerber, Leon 7607  
 Goldberg, Michael 5875  
 Hammer, Joseph 4280  
 Haupt, Otto; et al. 7663  
 Heil, E. 2574  
 Hoschek, Josef 4278  
 (Janíć, Radovan R.) (46554)  
 Jodeit, Max, Jr.; et al. 2577  
 Jovanović, Mirko 5876  
 Klamkin, Murray S. 7608  
 Knothe, Herbert 5877  
 Kunen, Hermann; et al. 7663  
 Larman, D. G.; et al. 4279
- Maergoiz, L. S. 5878  
 McMullen, P.; et al. 4279, 7609  
 Milka, A. D. 4281  
 Mitrović, Žarko M.; et al. 7610  
 Mosco, Umberto 7560  
 O'Neil, Patrick E. 1043  
 Oppenheim, Alexander 9250  
 Perlman, Michael D.; et al. 2577  
 Rigby, J. F. 7611  
 Rottenberg, Reuven H. 5879  
 Schaer, Jonathan 7599  
 Schmidt, Wolfgang M. 7612  
 Schneider, Rolf 2578  
 Stanković, Mimir S.; et al. 7610  
 Walkup, D. W.; et al. 7609  
 Wetsel, John E. 4282  
 Zenkin, O. V. 7003
- Introducing young people  
 to scientific work (\*6554)

## A45 Packing and covering [See also 05B40, 10E30, 50B30.]

- Beck, A.; et al. 7613  
 Bleicher, M. H.; et al. 7613  
 Fejes Tóth, L. 1045  
 Gluško, A. G.; et al. 7616, 7617  
 Goldberg, Michael 7614  
 Horváth, Jenő 7615
- Robinson, Raphael M. 6626  
 Rvačev, V. L.; et al. 7616, 7617  
 Soltan, P. S. 4283, 5880  
 Stojan, Ju. G.; et al. 7616, 7617  
 Wegner, G. 4284  
 Wills, J. M. 7618

## A50 Hilbert geometry and other distance geometries

- Beltrametti, H. G. 6349  
 Dooley, Robert A. 7679  
 Glogovskij, V. V. 2597  
 Golab, S. 4336  
 Phadke, B. B. 5881  
 Stolarsky, K. B. 1044
- Titarenko, Ju. V. 1090  
 Valentine, J. E.; et al. 5882  
 Valentine, Joseph E. 2579  
 Wayment, S. G.; et al. 5882  
 Witsenhausen, H. S. 9939

## 53-XX DIFFERENTIAL GEOMETRY (For differential topology, see 57Dxx. For foundational questions of differentiable manifolds, see 58Axx.)

## 53Axx Classical differential geometry

## A05 Curves and surfaces in euclidean space

- Backes, F. 4285  
 Balabanova, R. S. 9263  
 Belov, K. M. 2580  
 Beresina, L. Ja. 2581  
 Bilčev, Svetoslav 7619  
 Blank, Ja. P.; et al. 4286  
 Burago, Ju. D. 2582  
 Chen, Jau-jing 2583  
 Dolezal, Josef 4300  
 Dvornikov, V. I. 7620  
 Frackiewicz, H. 4287  
 Gajubova, K. H. 5883  
 Gorovars, Krishan K. 2584  
 Hacısalıhoğlu, H. H. 5884  
 Hoschek, Josef (4278)  
 Kurbanov, N. 4258  
 Kurnik, Zdravko; et al. 7621  
 Larman, D. G.; et al. (4279)  
 Lovelock, D. 4325
- McMullen, P.; et al. (4279)  
 Meirer, Klaus 5885  
 Orehova, N. S. 5886  
 Perlova, N. G. 2585  
 Poljanskaja, O. P. 2586  
 Prihoda'ka, O. I. 7622  
 Pylarinos, Othon 1046  
 Ruskol, D. E. 4289  
 Saban, Giacomo 2587  
 Schaer, Jonathan (7599)  
 Teng, T. H. 2588  
 Tihonov, V. A. 4290  
 Tjan, Ju. D. 4291  
 Topencarov, V. (6238)  
 Verner, A. L. 1047  
 Volenec, Vladimir; et al. 7621  
 Wong, Tung-chow 4292  
 Zagajny, H. A.; et al. 4286

## A10 Minimal surfaces

- Chen, Bang-yen 1048, 5887, 9251  
 Fomenko, A. T. 1199  
 Giusti, Enrico 1051  
 Gulliver, Robert; et al. (7567)  
 Hurler, Fritz Peter 9252  
 Hildebrandt, Stefan; et al. 5888
- Itoh, Takehiro 4328, 9253  
 Kaul, Helmut; et al. 5888  
 Marcus, Froim 5889  
 Nitsche, Johannes C. C. 5890  
 Osuki, Tomosuke 4327  
 Roșca, Radu 1049

- Ruskol, D. E. 4289  
 Souček, V. (5845)  
 Spruck, Joel; et al. (7567)
- Steffen, Klaus 1050  
 Trudinger, Neil S. 5891

## A15 Affine differential geometry

- Alšibaša, Ž. D. 4293  
 Bompiani, Enrico 7623  
 Českova, M. A. 9254  
 Marková, Libuše 1052  
 Merza, J. 4294
- Mokljak, A. P. 2589  
 Neifel'd, Ž. G. 1057  
 Neuman, František 7624  
 Rusciur, Stefania 7625  
 Wang, Ya-yen Lee 7626

## A20 Projective differential geometry

- Blank, Ja. P.; et al. 2590  
 Bompiani, Enrico 5892  
 Čahtauri, A. I. 4295  
 Čakmazjan, A. V. 1053  
 Cavallieri D'Oro, Luigi 5893  
 Dekrét, Anton 2591  
 Gluzdov, V. A. 2594, 4301  
 Godeaux, Lucien 7627  
 Gormasova, N. M.; et al. 2590  
 Karapetjan, S. E. 4296  
 Krugljakov, L. Z. 9255
- Lenov, V. S. 1054  
 Makeev, G. N.; et al. 1055  
 Neifel'd, Ž. G. 4297  
 Pekarskienė, A. 2592  
 Pikuleva, L. G. 2596  
 Rogovoi, M. R. 7628  
 Stepanova, L. F.; et al. 1055  
 Stoljarov, A. V. 7629  
 Tchakhtauri, A. I. 5894  
 Tevsadze, G. N. 5900, 5901  
 Villa, Mario 4298

## A25 Differential line geometry

- Beresina, L. Ja. 2593  
 Ivanova-Karatopraklieva, Ivanka 2595, 7630  
 Karpenko, V. L. 7631
- Kulagin, Ju. A. 4302  
 Stoev, G. S. 4303  
 Vala, Josef 4304

## A30 Conformal differential geometry

- Kowalski, Oldřich 4324

## A35 Noneuclidean differential geometry

- Baholdina, T. M.; et al. 2599  
 Calapso, Maria Teresa 4299  
 Frank, Hubert 5895  
 Gajubov, G. H. 5898, 5899  
 Gajubov, G. H.; et al. 5896, 5897  
 Gajubova, K. H.; et al. 5896, 5897  
 Ivlev, E. T. 2598  
 Karger, Adolf 2601  
 Kosogljad, E. I. 4305, 5902
- Igubiševa, L. V.; et al. 2599  
 L'vova, L. V. 4306  
 Mogal'kova, S. N.; et al. 2599  
 Roșca, Radu 1049  
 Rosenfel'd, B. A.; et al. 2599  
 Šelehov, A. M. 1056, 2600  
 Soleiman, M. A. 9256  
 Vladimirova, S. M.; et al. 2624  
 Volkov, Ju. A.; et al. 2624

## A40 Other special differential geometries

- Borisov, Adrijan 9257  
 Brik, I. M.; et al. 1058  
 Iordănescu, Radu 2603  
 Neifel'd, Ž. G. 5903  
 Orehova, N. I.; et al. 1058
- Fanfilova, A. S.; et al. 1058  
 Parnasskij, I. V. 9258  
 Rjasanova, L. A. 2602  
 Rosenfel'd, B. A.; et al. 1058  
 Stiklakyte, L. 7632

## A45 Vector and tensor analysis

- McCrea, W. H.; et al. 9259  
 Moray, P. S., Jr. 2604  
 Pavelle, R.; et al. 9259
- Pobedra, B. E. 4307  
 Pucci, Giancarlo 7633

## A50 Spinor analysis

- Crumeyrolle, A. 9260

## A55 Differential invariants (local theory), geometric objects

- Ganes, Virgilu 1060  
 Hayasaka, Minoru 2606
- Kondaurov, M. T. 4310  
 Žilaukiens, S. 4311

## A99 None of the above, but in this section

- Kosmodem'janskij, A. A., Jr. 5227  
 Magnaradze, L. G. 7267
- Pogorelov, A. V. 2304, 2305

## 53Bxx Local differential geometry

## B05 Affine connections

- Isanu, Stere 7636  
 Jabrova, A. G.; et al. 4313  
 Nedîț, Nicolae I.; et al. 4314
- Nicolescu, Liviu; et al. 4314  
 Sapiro, Ja. L.; et al. 4313  
 Teodorescu, Ion D.; et al. 4314

- B10 Projective connections**
- Mocim, Gh. C. 1068 Szybiak, Andrzej 4315
- B15 Other connections**
- Di Comite, Claudio 5904
- B20 Local Riemannian geometry**
- Abdullin, V. N. 7637 Komisu, Katsumi 7639  
 Balabanova, R. S. 9262, 9263 Picasso, Ettore 7640  
 Chen, Cheng-hsien 4316 Prabha, Subhash; et al. 1071  
 D'Atri, J. E.; et al. 1070 Prakash, Hirmala; et al. 1071  
 Grecu, Mitiu I. 2611 Rahman, M. S. 1072  
 Jafarov, B. A. 9264a-b Weinstein, Alan 7641  
 Lefkovich, A. K. 7638 Wunsch, V. 7273  
 Nickerson, H. K.; et al. 1070
- B25 Submanifolds**
- Fomenko, V. T. 9267 Mastogi, S. C. 9268
- B30 Lorentz metrics, indefinite metrics**
- Galstjan, N. G. 1093 Pogca, Radu 1560, 2632  
 Hough, Chong-shi 2631 Rouxel, Bernard 3044
- B35 Hermitian and Kählerian structures [See also 32Cxx.]**
- Gheorghiu, Gh. Th. 2633 Mishra, R. S.; et al. 4333  
 Kushwaha, R. D. S.; et al. 4333 Podkovyrin, A. S. 9275
- B40 Finsler spaces and generalizations (areal metrics)**
- Agrawal, Pushpa; et al. 9277 Mastogi, S. C.; et al. 4338  
 Agrawal, R.; et al. 4338 Sinha, B. B. 1097  
 Dias, Guy 7661 Sinha, B. B.; et al. 1098, 2639, 5934  
 Golab, S. 4336 Singh, S. P.; et al. 1096, 2639, 5934  
 Lal, K. B.; et al. 4337, 9277 Singh, S. S.; et al. 4337  
 Matsumoto, Makoto 1096  
 Mohr, A. 5933
- 53Cxx Global differential geometry [For related bundle theory, see 55Fxx, 57Dxx.]**
- C05 Connections**
- Colubov, V. K. 5909 Takasu, Tsurusaburo 5906  
 Kolář, Ivan 2608 Tarini, Marian 1067  
 Lumiste, O. 5905 Vedernikov, V. I. 7635  
 Mancuso, Vincent J. 9298 Žiakienė, S. 4311  
 Sinha, B. B. 7659
- C10 G-structures**
- Aprutesei, C. 1061 Ishihara, Tōru 1064  
 Bures, Jerolim 2607 Okumura, Masafumi; et al. 1065, 1066  
 Duggal, K. L. 1062, 1063 Yano, Kentaro; et al. 1065, 1066  
 Franke, V. A. 9261
- C15 Almost complex, contact, symplectic, almost product structure, etc.**
- Blair, David E.; et al. 2612 Ludden, Gerald D.; et al. 2612  
 Crampin, Michael 2605 Mishra, R. S.; et al. 5907, 7658  
 Hilt, Nam; et al. 5907 Smith, Larry 4437  
 Ianus, Stere 9209 Udrishte, Constantin 5908  
 Kushwaha, R. D. S.; et al. 7658
- C20 Riemannian manifolds, including pinching [See also 58B20.]**
- Cordes, R. O. 1198 Kowalski, Oldřich 4318  
 Dunkin, V. V.; et al. 5913 Lelong-Ferrand, Jacqueline 5916  
 Eberlein, Patrick 4453 Maeda, Fumi-Yuki (3746)  
 Fomenko, A. T. 2750 Martínez Haveria, A. 1077  
 Glasner, Moses; et al. 2613 Mittem, Jean-Claude 7763  
 Gordon, William B. 1075 Nakai, Mitsuru; et al. 2613, 2616  
 Graffter, L. B. 534, 535, 5912 Patodi, V. K. 1201  
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 Grossman, Nathaniel 5914 Sakai, Takashi 2617  
 Guman, S. Ja.; et al. 5913 Shapiro, Ja. L. 1079  
 Harcher, Hermann 1076 Sario, Leo; et al. 2616, 5915  
 Katz, Richard; et al. 2613 Schiff, J. L. 2618  
 Kawai, Kazumitsu; et al. 5915 Shiohama, Katsuhiko 2619
- Singer, I. M.; et al. 4447 Tachibana, Eibun-ichi 2620  
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 Smith, R. T. 7642 Vaisman, Isu 2739  
 Solodovnikov, A. S. 1081 Vogel, Walter O. 5911  
 Sugimoto, Midori 9265 Weill, Georges G. 9266  
 Suyama, Yoshihiko; et al. 7643 Żekanowski, Zbigniew; et al. 1080
- C25 Special Riemannian manifolds (Einstein, Sasakian, etc.)**
- Sekizawa, Masami 1073
- C30 Homogeneous manifolds [See also 57F15.]**
- Belonogova, E. M. 1069 Kowalski, Oldřich 4324  
 Heintze, E. 2610 Mhitarjan, V. G. 2741
- C35 Symmetric spaces [See also 57F15.]**
- Brik, I. M.; et al. 1058 Panfilova, A. S.; et al. 1058  
 Conlon, Lawrence 4320 Parker, Monique 2621  
 Faraut, Jacques; et al. 2100 Rozenfel'd, B. A.; et al. 1058  
 Harzallah Khelifa; et al. 2100 Sekacki, V. V. 1205  
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 Orehova, N. I.; et al. 1058
- C40 Submanifolds, isometric imbeddings [See also 57D40.]**
- Abe, Kinetsu 4321 Matsushima, Yozo 5917  
 Blisnikas, V. I. 4322 Moore, John Douglas 2623  
 Boček, Leo 4323 Mršević, Mita 2615  
 Chen, Bang-yen 1082, 5920, 5921, 7644 Mutō, Yosio 4326  
 Chen, Bang-yen; et al. 5922 Osserman, Robert 7647  
 Feldman, E. A. 1074 Ōtsuki, Tomonobu 4327  
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 Lawson, H. Blaine, Jr.; et al. 7645 Volkov, Ju. A.; et al. 2624  
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 Little, John A.; et al. 2722 Yano, Kentaro 7649  
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- C45 Global surface theory (convex surfaces à la A. D. Aleksandrov)**
- Aminov, Ju. A. 1086 Kuiper, H. H. 5929  
 Belov, K. M. 2580 Lawson, H.; et al. 2625  
 Berger, Melvyn S. 4329 Lawson, H. Blaine, Jr. 4331  
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 Burago, Ju. D. 2582 Mokrišev, K. K.; et al. 1088  
 do Carmo, M.; et al. 2625 Oliker, V. I. 9270  
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 Dekster, B. V.; et al. 5930 Pogorelov, A. V. 1089, 2628  
 Fempel, Stanimir 7652 Poljanskaja, O. F. 2586  
 Frangulov, S. A. 2627 Simon, Udo 2629  
 Gajubova, K. N. 5883 Šor, L. A. 2630, 7654  
 Grek, A. S. 9269 Titarenko, Ju. V. 1090  
 Harle, Carlos Edgard 4330 Vodop'janov, S. K. 7655  
 Hoffman, David A. 7653 Volkov, Ju. A. 5930  
 Hough, Chong-shi 5926 Willmore, T. J. 1091  
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 Ivanova-Karatopraklieva, I. 1087 Zalgaller, V. A. 7656  
 Konishi, Mariko; et al. 1092
- C50 Lorentz manifolds, manifolds with indefinite metrics**
- Bancel, Daniel 1539 Marcus, F. 1094  
 Beltrametti, E. G. 6349 Pigeaud, Pierre; et al. 5931  
 Hermann, Robert 9272 Robertson, S. A. 1078  
 Hough, Chong-shi 2631 Sakoto, Moussa; et al. 5931
- C55 Hermitian and Kählerian structures [See also 32Cxx.]**
- Bum, Sang-seup 4332 Omoto, Hideo 2736  
 Girbau, Juan 2634 Parker, George D. 7754  
 Goldberg, S. I. 9273 Satō, Isuke 9276  
 Greene, R. E.; et al. 7657 Singh, K. D.; et al. 4334  
 Howard, Alan; et al. 2635 Smyth, Brian; et al. 2635  
 Hsiung, Chuan-chih; et al. 2636 Srivastava, R. C.; et al. 4334  
 Ibrahim, Jorge 6039 Watanabe, Yoshiyuki 7660  
 Levko, John J., III; et al. 2636 Wu, Rung-hai; et al. 7657  
 Lichnerowicz, André 9274
- C60 Finsler spaces and generalizations (areal metrics) [See also 58B20.]**
- Al-Borney, M. S.; et al. 4335 Beem, John K. 1095



## C60 Continued

Brickell, F.; et al.	4335	Prasad, Baij Nath	2638
Meher, F. M.; et al.	2637	Slobodjan, Ju. S.	4339
Misra, R. B.	7662	Urbanas, A. P.	5910
Misra, R. B.; et al.	2637, 5932		

## C65 Integral geometry, differential forms, currents, etc.

Florian, A.	(1038)	Stanilov, Gros'o	5935
Slavskii, V. V.	9271	Stanilova, L. R.	4340

## C70 Direct methods (G-spaces of Busemann, etc.)

Busemann, Herbert	*5936	Park, Ralph	2640
Haupt, Otto; et al.	7663	Olikar, V. I.	(9270)
Klineth, Hermann; et al.	7663	Satimov, N.; et al.	5937, 5938
Nasyrov, H. A.; et al.	5937, 5938	Witsenhausen, H. S.	5939

## C75 Geometric orders, order geometry

Strel'cov, V. V.	2571
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## 54-XX GENERAL TOPOLOGY (For the topology of manifolds of all dimensions, see 57Axx.)

## -01 Elementary exposition (collegiate level)

Meyer, Paul R.	4355
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## 54Axx Generalities

## A05 Topological spaces and generalizations (closure spaces, etc.)

Dermenjian, Yves; et al.	2641	Schmare, Paul S.	5943
Detourbet, Gérard; et al.	2641	Sekanina, M.; et al.	4341
Harris, Douglas	*5941	Singh, Darshan	9276
Lal, R. W.	1099	Tanré, Daniel	4342
Polák, V.; et al.	4341	Wattenberg, Frank	2642
Poláková, N.; et al.	4341		

## A10 Change of topology, comparison of topologies

Kottman, Clifford A.	4098	Thornton, Melvin C.	1107
Larson, Roland E.; et al.	5942	Thron, W. J.; et al.	5942
Reiter, Harold	2664		

## A20 Convergence (general theory) and limits

Ervinck, G.	9280	Reed, Ellen E.	1109
Fayet, Jean-Pierre	2647		

## A25 Cardinality properties (discrete subsets, weight, etc.)

Arhangel'skii, A. V.; et al.	5940	Juhász, I.; et al.	7664
Bonnett, Dennis A.	4343	Stephenson, R. M., Jr.	5944
Filippov, V. V.; et al.	5940	Treybig, L. B.	4346
Hajnal, A.; et al.	7664		

## A99 None of the above, but in this section

Averbuh, V. I.; et al.	9130, 9131	Smoljanov, O. G.; et al.	
Giles, Robin; et al.	2485		
Kummer, Hans; et al.	2485	Vogt, Rainer M.	9130, 9131 (9323)

## 54Bxx Basic constructions

## B10 Product spaces

Alas, Ofelia Teresa	4358	Malyhin, V. I.	(9287)
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## B15 Quotient spaces, decompositions

Lashnev, N. S.	1103	Strong, Paul L.	9299
Michael, E. A.	2681	Whittaker, James V.	1143

## B25 Same, inverse limits

Cimpian, V.	1101	Fears, A. R.	4360
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## B99 None of the above, but in this section

Čoban, M. M.	1102	Moran, W.; et al.	9282
Knight, C. J.; et al.	9282	Pym, J. S.; et al.	9282

## 54Cxx Maps and general types of spaces defined by maps

## C05 Continuous maps

Alas, Ofelia Teresa	4358	Tanaka, Tadashi	9300
Booth, Peter I.	7708		

## C10 Special maps: open, closed, perfect, almost open, light, etc.

Baggs, Ivan	1129	Komarov, A. P.	2644
Berkovits, H. W.	7685	Nakamura, Michiko	848
Bondar, A. V.	9296	Ostrovskii, A. V.	5975
Deb, Mamata; et al.	7687	Singal, M. K.; et al.	7687
Franko, V. A.	9261	Tanaka, Yoshio	5976

## C15 Retraction

Barton, E.	2670	Mardešić, Sibe	5974
Bentley, H. L.	2665	McWaters, M. M.; et al.	7680
Borsuk, K.	*2679	Reed, J. H.; et al.	7680
Collino, Alberto	2680	Taylor, Walter	(8598)
Fox, Ralph H.	5973	Vainštekn, A. G.	4407
Fugate, J. B.	5963	Wagner, Neal R.	4350

## C20 Extension

Firby, P. A.	9293	McCoy, R. A.	2646
Jaworski, Jan W.	(9319)	Mrówka, S.	2682

## C25 Imbedding

Chapman, T. A.	9297	Pasynkov, B. A.	2683
Lifanov, I. K.	2673	Patkowska, H.	2674

## C35 Function spaces (See also 58D15.)

Banilower, H.	4130	Schmets, J.; et al.	872
Bins, E.; et al.	9115	Sentilles, F. Dennis	4133
De Wilde, M.; et al.	872	Su, Chen-lyi; et al.	7457
Feldman, W.; et al.	9115	Su, Li Pi; et al.	7457
Pol, R.	9283	Vidosich, Giovanni	2652
Pryce, J. D.	5729		

## C40 C(X); algebraic techniques (ideals, etc.) (See also 46J10.)

Isbell, J. R.	1104	Williams, R. Douglas	4134
Thornton, Melvin C.	1107		

## C50 Zero sets, Baire sets and functions (See also 26A21.)

Bruckner, Andrew M.	3645	Kellum, K. R.; et al.	2106
Garrett, B. D.; et al.	2106	Šalát, Tibor	469

## C55 Absolute neighborhood extensor, absolute extensor, absolute neighborhood retract (ANR), absolute retract spaces (general properties)

Armentrout, Steve	5971	Segal, Jack; et al.	7686
Mardešić, Sibe; et al.	7686		

## C60 Set-valued maps

Aggéri, J. C.	7684	Mancuso, Vincent J.	5977
Calvert, Bruce D.	1130	Schirmer, Helga	9301
Čeban, N. K.	7691	Sundaresan, Kondagunta	1106
Kuratowski, K.	1105	Thomas, J. W.	2690

## C99 None of the above, but in this section

Vinokurov, V. A.	4232
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## 54Dxx Fairly general properties

## D05 Connected and locally connected spaces (general aspects)

Coppin, C. A.	5972	Kannan, V.	5967
Curtis, D. W.	1124	Miller, Gary; et al.	1127
Hammer, Preston C.; et al.	5966	Pearson, B. J.; et al.	1127
Jones, Richard M.; et al.	5966	Pojakov, A. I.	2675

D10 Separation axioms,  $T_0 - T_3$ 

Hall, Dick Wick; et al.	4348	Roszycki, Eugene P.; et al.	4348
Murphy, Sheila K.; et al.	4348		

## D15 Higher separation axioms (completely regular, normal, perfectly or collectionwise normal, etc.)

Alas, O. T.	5945	Pears, A. R.	4360
Bins, E.; et al.	4131	Rabinberg, A. I.	4363
Borges, C. R.	2648	Rudin, Mary Ellen	2660
Feldman, W.; et al.	4131	Singal, M. K.; et al.	9281, 9288
Katuta, Yūkiti	7666	Stephenson, R. M., Jr.	5944, 7665
Mathur, Asha; et al.	9281, 9288		

## D20 Covering properties: Lindelöf (m,n)-compact, paracompact, pointwise paracompact, etc.

Arhangel'skiĭ, A. V.	9286	McCoy, R. A.; et al.	9302
Arya, Shashi Prabha	5954	Sharma, P. L.	4345
Chev, James	1116	Singal, Asha Rani	2661
Dacić, B.	2643	Singal, M. K.	7671
Fitzpatrick, Ben, Jr.	7710	Singal, M. K.; et al.	5955
Fletcher, F.; et al.	9302	Slover, R.; et al.	9302
Hodel, R. E.	2657	Tamano, Hisahiro	5956
Jain, Pushpa; et al.	5955	Telgarsky, R.; et al.	2662
Kok, H.; et al.	2662	Telgarsky, Rastislav	4361, 7672
Kutyga, G. N.	2645	Zenor, Phillip	4367
Lamore, Lawrence L.	1115		

## D30 Compact spaces and generalizations

Bhaumik, R. N.; et al.	9289	Misra, D. W.; et al.	9289
Bruckner, P.	4362	Rancin, D. V.	5958
Čech, E.	2663	Reiter, Harold	2664
Davies, Roy O.	2656	Šneĭder, V. E.	1117
Gonsior, H.	7673	Zalcov, V.	1118
Harris, Douglas	7674		

## D35 Compactifications, etc.

Bentley, H. L.	2665	Harris, Douglas	1122, 7678
Brümmer, G. C. L.	1119	Holm, Per	5960
Buchwalter, Henri	9291	Hušek, Miroslav	5957
Chandler, Richard E.	1120, 9292	(Iliadis, S.)	2668
Császár, A.	7676	Mack, John; et al.	4365
D'Aristotle, Anthony J.	1121	Parovičenko, I.	2668
Dickman, R. F., Jr.	4364	Rayburn, Marlon; et al.	4365
Fleischer, Isidore	7677	Thrivikraman, T.	5961
(Fomin, S.)	2668	Warren, Nancy M.	1123
Hamburger, F.	2666	Woods, Grant; et al.	4365

D45 Local compactness,  $\sigma$ -compactness

Giuli, Eraldo	7667		
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D50  $k$ -spaces

Boone, James R.	4359	Tanaka, Yoshio	5946
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## D60 Realcompactness and realcompactification

McArthur, William G.	2667		
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## D99 None of the above, but in this section

Frélicher, Alfred; et al.	4094	Kramer, Edvard	468
Jarchow, Hans; et al.	4094	Porta, Horacio	5705
Kominek, Zygryd	2440	Tomásek, Stanislav	2444

## 54Exx Spaces with richer structures

## E05 Proximity structures and generalizations

Ogurat, M. S.; et al.	2653	Sharma, P. L.; et al.	1110
Radmally, S. A.; et al.	1110, 2653	Stevenson, Frederick W.	4353
		Thampuran, D. V.	4354

## E15 Uniform structures and generalizations

Buchwalter, Henri	(9291)	Levine, Norman; et al.	9284
Császár, A.	2456	Nachman, Louis J.; et al.	9284
Enos, H. C.	4351	Papatriantafillou, Errikos	5949, 7668
Hager, Anthony W.	(795), 5948	Ufnarovskaja, T. F.	6971
Juhász, I. L.	4352	Williams, James	5950, 7669
Karube, Takashi	2654		
Levine, Norman	1108		

## E30 Moore spaces

Fitzpatrick, Ben, Jr.	7710	Tall, Franklin D.	9285
Reed, G. M.	1114		

## E35 Metric spaces, metrisability

Alas, Ofelia Teresa	5951	Lutzer, D. J.	5952
Berard, Anthony D., Jr.	4368	Meyer, Paul R.	4355
Brown, Jack B.	1112	Nedev, S.; et al.	4356, 4357
Chaika, Milton	489	Okuyama, A.	1113
Čoban, M. M.; et al.	4356, 4357	Shiraki, Takanori; et al.	2658
Feinberg, V. Z.	3257	Strong, Paul L.	(9299)
Flax, C. L.	7670	Valentine, Joseph E.	(2579)
Ishii, Tadashi; et al.	2658	Wilker, J. B.	5953
Joiner, Charles	2659		

## E45 Compact (locally compact) metric spaces

Krakus, B.	5968, 5969		
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## E50 Complete metric spaces

Aarts, J. M.	7675	Dooley, Robert A.	7679
Bel'nov, V. K.	5959	Sell, George R.	4366

## E55 Bitopologies

Thampuran, D. V.	1111		
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## 54Fxx Special properties

F05 Ordered topological spaces, partially order spaces  
[See also 06A45.]

Adnadević, D.	133	Rajagopalan, M.; et al.	7683
Baker, Harvey Lee, Jr.	2655	Schnare, P. S.; et al.	9290
de Groot, J.; et al.	9290	Soundararajan, T.; et al.	7683
Kok, H.	9295	Speed, T. P.	4371
McCallion, T.	2678	Venkataraman, M.; et al.	7683

## F15 Continua and generalizations

Barton, E.	2670	Proctor, C. Wayne	4369
Bennett, Donald E.	2671	Reed, J. H.; et al.	1126
Eberhart, C. A.; et al.	5964	Rogers, James T., Jr.	4370
Fearnley, Lawrence	5962	Rogers, Leland E.	2676
Fugate, J. B.; et al.	5964	Russell, M. J.	7681
McWaters, M. M.; et al.	1126	Stevenson, Wall Elizabeth	1128
Patkovska, H.	2674	Weaver, Morris	2677

## F20 Special types of continua

Fugate, J. B.	5965	Hopmann, A. G.	1125
Hagopian, Charles L.	9294		

## F45 Dimension theory [See also 55C10.]

Filippov, V. V.	1131	Pears, A. R.	1134
Fletcher, P.; et al.	(9302)	Slover, R.; et al.	(9302)
Gerlits, J.	4375	Stan'ko, M. A.	2684
McCoy, R. A.; et al.	(9302)	Tumarkin, L. A.	(9303)
Nagata, Jun-iti	1132	Tunncliffe, W. R.	5978
Pasynkov, B. A.	1133	Valiev, V. A.	1135

F50 Spaces of dimension  $\leq 1$ ; curves, dendrites [See also 26A03.]

Atneosen, Gail H.	2669	Lifanov, I. K.	2673
Conte, Alberto	2672	Mohler, L.; et al.	5970
Lelek, A.; et al.	5970	Wilson, David C.	7682

- 54Gxx Peculiar spaces
- 005 *Extremely disconnected spaces, F-spaces, etc.*
- Proflk, Z. 4373
- 015 *Pathological spaces*
- Collino, Alberto 2680
- 099 *None of the above, but in this section*
- Babiker, Abdel Ghayoum A. 5299 Marty, R. H. 2649
- 54Hxx Connections with other structures, applications
- H05 *Descriptive set theory (topological aspects of Borel, analytic, projective, etc. sets) [See also 04A15, 26A21, 28A05.]*
- Čudnovskij, D. V. (1965), 9279 Stupina, I. D. (73)  
 Malyhin, V. I. 9287 Tumarkin, L. A. 9303  
 Šapirovič, B. 1100 Willard, Stephen 4347  
 St. Andre, R. J. 4344
- H15 *Transformation groups and semigroups [See also 20Mxx, 22-XX, 57Exx.]*
- Bauer, Walter (8769) Hofmann, K. H.; et al. (8761)  
 Birman, Joan S.; et al. (9334) Janos, Ludvik 5984  
 Borrego, J. T.; et al. 3632 Jaroker, I. Š. 7690  
 Bronštejn, I. U. \*7688 Lange, Kenneth 2085  
 Čeban, N. K. 7691 Magill, Kenneth D., Jr. 2651  
 Chillingworth, D. R. J.; et al. (9334) Margulis, G. A. 445  
 Chu, Hein 4384 McCoy, R. A.; et al. 2650, 9305  
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 Fletcher, P.; et al. 2650 Papatriantafillos, Errikos 7668  
 Fogelgren, J. R.; et al. 9305 Peleg, Reuven 7694  
 Halder, Heins-Richard 2084 Roberson, Fred A. 2686  
 Hanson, T. H. McH. 3626, 4385a-b, 7689 Scheerer, Hans 2086  
 Hofer, Robert D. 5983 Stadlander, David 9306  
 Weaver, Norris 2677  
 Whittaker, James V. 1143
- H20 *Topological dynamics [See also 28A65, 34C35, 58Fxx.]*
- Bednarek, Nadine 5985 Nathanson, Melvyn B. 4388  
 Bronštejn, I. U. 2687 Pelcsar, A. 4389  
 Cantrell, G. L. 4372 Reich, Simeon 1145  
 Čirkova, I. A.; et al. 4390 Sharma, A. K.; et al. 7696  
 Čaja, C. 4386 Sharma, Ashok Kumar 7695  
 Pallone, F. R., Jr. 2283 Sibirskij, K. S.; et al. 4390  
 Geoghegan, Ross 4349 Sinaĭ, Ja. G. 6345  
 Guseman, L. F., Jr.; et al. 7692 Solomon, J. L.; et al. 7692  
 Halpern, Benjamin 4374 Suvorov, G. D.; et al. 5947  
 Izman, M. S. 4387 Takens, Floris (9357)  
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 Kuperberg, W. 7693 Upadhyay, M. D.; et al. 7696  
 Luferenko, V. P.; et al. 5947 Weiss, Benjamin 5987  
 Martin, John C. 9307 Williams, R. F. 9309
- H25 *Fixed-point and coincidence theorems [See also 47H10, 55C20.]*
- Avramescu, Cezar 1144 Singh, K. L. 2689, 5988  
 Calvert, Bruce D. 1130 Singh, S. P. 1146  
 Fukushima, Hiroshi 7697 Swaminathan, S.; et al. 4236  
 Kannan, R. 9310 Tamaki, R. K. 9312  
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 Matsumoto, Hideya 9311 Thompson, A. C.; et al. 4236  
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 Ray, Baidyanath 7698 Wong, Chi Song 2691  
 Schirmer, Helga 7699, (9301) Wong, James S. W. 1147
- H99 *None of the above, but in this section*
- England, James W. (3431) Učovičić, Enes 2347
- 02 *Advanced exposition (research surveys, etc.)*
- Mayer, Joerg 4393
- 04 *Explicit machine computation and programs (not the theory of computation or programming)*
- Allgower, E. L.; et al. 4622 Keller, C. L.; et al. 4622
- 55Axx Low-dimensional topology [See also 57Axx.]
- A05 *Fundamental group, presentations, free differential calculus [See also 20B40.]*
- Brieskorn, E. 2692 Hempel, John 4418  
 Chillingworth, D. R. J. 2701 Porter, Tim 2698
- A15 *Graphs and map coloring [For other graph theory, see 05Cxx.]*
- Mani, P. (5867) Saaty, Thomas L. 5026  
 Matschinski, Matthias 5025 Vasil'ev, Ju. L. 9315
- A25 *Knots and links [For the high-dimensional case, see 57C45.]*
- Bognár, M. 5990 McPherson, James M. 4397  
 Gordon, C. McA. 4394 Murasugi, K.; et al. 1149  
 Gordon, C. McA.; et al. 5989 Murasugi, Kunio 1148  
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 Magnus, W. (3696) Whitten, Wilbur 1151, 4398  
 Mayland, E. J., Jr. 4396
- A35 *Dehn's Lemma, sphere theorem, loop theorem, asphericity*
- Schneider, Hans-Jürgen 2706
- 55Bxx Homology and cohomology theories
- B05 *Čech types*
- Asada, Akira 7702 Hilton, Peter; et al. 7703  
 Deleanu, Aristide; et al. 7703 Porter, Tim 2698
- B10 *Singular theory*
- Bröcker, Theodor 2695 Lungulescu, Bogdan (7716)
- B15 *K-theory [For algebraic K-theory, see 18F25.]*
- Adams, J. F.; et al. 2694 Puppe, Volker 1153  
 Harris, A. S.; et al. 2694 Rector, David L. 1154  
 Johnson, David Copeland; et al. 2696 Smith, Larry; et al. 2696  
 Karoubi, Max 7704a-c Switzer, R. M.; et al. 2694
- B20 *Generalized (extraordinary) homology and cohomology theories, spectra*
- Berikashvili, N. A. 4402a-b Vaĭnšteĭn, A. G. 4407  
 Hall, M. H. 4405 West, Robert W. 4408  
 Mislin, Guido 2697
- B30 *Sheaf cohomology [See also 18P20, 32C35, 32L10.]*
- Geronimus, A. Ju. 2742 Teleman, Silviu (8677)  
 Hubbard, John H. 4446 Verona, Andrei 4448  
 Skordev, G. S. 1157
- B99 *None of the above, but in this section*
- Helemskij, A. Ja. 9135 Piccinini, Renzo A. 4406  
 McCord, M. C. 9316



55Cxx Classical topics (For the topology of Euclidean spaces and manifolds, see 57A05, 57A10, 57A15.)

C05 Duality

Kužel'man, M. S. 4420 Skljarenko, E. G. 1170  
Maunder, C. R. F. 6007

C10 Dimension theory (See also 54F45.)

Ucci, Jack 7706

C20 Fixed points and coincidences (See also 54B25.)

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Knill, R. J. 9320 Thompson, Richard B. 5993  
Mukherjee, Kalyan K. 4409 Waggoner, Roger 2699

C25 Degrees

Brown, Robert F. 5992 Penn, Roger 4404

C35 Finite groups of transformations (Smith theory)

Jaworowski, Jan W. 9319 Myung, Myung Mi 4429  
Jones, Lowell 1159, 4427 Stong, R. E. 4449  
Kužel'man, M. S.; et al. 7700 Vinogradov, A. M.; et al. 7700

55Dxx Homotopy theory (For simple homotopy type, see 57C10.)

D10 Homotopy equivalences

Borsuk, K. 42619 Fox, Ralph H. 5973  
Collino, Alberto 2680 Mardesic, Sibe 5974  
tom Dieck, Tarmo 2702 Vogt, R. M. 2709  
Egger, M. H. 5995

D15 Classification of homotopy type

Sieradski, Allan J. 2707, 5998 Whitley, W. T. 1165  
Sternstein, Martin 6001

D35 Loop spaces

Croom, P. H. 4416

D40 Suspensions

Arlt, Dietmar 4410

D45 N-spaces and duals

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Clark, Allan 1161 Stasheff, James; et al. 1163  
Ewing, John 1162 Stasheff, James D. 6000  
Harrison, Jerome; et al. 1163 Williams, P. D. 2710  
Hilton, P. J.; et al. 5996, 5997 Zabrodsky, A. 9324  
Kumpel, P. G., Jr. 9321  
Roitberg, Joseph 1164

D50 Category and cocategory, etc.

Hardie, K. A. 2703, 2704 Ono, Yasaburo 5991  
Hoo, C. S. 2705

D99 None of the above, but in this section

Bousfield, A. K.; et al. 5994 Sanderson, B. J.; et al. (9327)  
Chapman, T. A. 9297 Seebach, J. A., Jr. 9322  
Kan, D. M.; et al. 5994 Vogt, Rainer M. 9323  
Rourke, C. F.; et al. (9327)

55Exx Homotopy groups

E05 Homotopy groups, general; sets of homotopy classes

Birman, Joan S.; et al. (9334) Heiang, Wu-chung (9340)  
Chillingworth, D. R. J.; Okamoto, Sigeru 9314  
et al. (9334) Sieradski, Allan J. 9326

E10 Stable homotopy groups

Toda, Hiroshi 2708

E15 Whitehead products and generalisations

Anderson, Douglas R. 2713 Kwun, Kyung Whan 7718a-b  
Chen, Kuo-tsai 7709 Spencer, Christopher B. 5999

E40 Homotopy groups of spheres

Shar, Albert 1166

E45 Stable homotopy of spheres

Conner, P. E.; et al. 7722 Smith, Larry; et al. 7722  
Smith, Larry 6016 Tiple, D. A. 7711

E50 The J-morphism

Anderson, D. W. 4401 Nishida, Goro; et al. 4413  
Deleau, Aristide; et al. 4403 Ray, Nigel 4435  
Hilton, Peter; et al. 4403 Toda, Hiroshi; et al. 4413  
Mimura, Mamoru; et al. 4413

E99 None of the above, but in this section

Kamps, Klaus Heiner 4412

55Fxx Fiber spaces and bundles (See also 18F15.)

F05 Fiber spaces

Arnold, James E., Jr. 4415 Nomura, Yasutoshi 6003  
Hempel, John; et al. 4417 Rutter, John W. 2711  
Jaco, William; et al. 4417 Shih, Weishu; et al. 1155  
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Lumiste, U. 5905

F10 Fiber bundles

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Porter, Gerald J. 7713 Zvengrowski, Peter 9329  
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F15 Classification

Fuchs, Martin 1167

F25 Sphere bundles and vector space bundles

Anderson, D. W.; et al. 2729 Milnor, John; et al. 2757  
Anderson, Douglas R. 1171 Morikawa, Hisasi 5414  
Barenbaum, V. M. 1182 Orlik, Peter; et al. 2757  
Gunning, R. C. 2730 Porteous, I. R. 2724  
James, I. M. 6005 Wong, P. 2725  
James, I. M.; et al. 2729 Wood, John W. 2732  
Lam, Kee Yuen 2731 Yasui, Tautoma 1192  
Manturov, O. V. 7742

F35 Classifying spaces of groups and N-spaces

tom Dieck, Tarmo 7744

F40 Homology of classifying spaces, characteristic classes

Barenbaum, V. M. 1182 Sutherland, W. A. 1168  
Kahn, Peter J. 1183 Tauchiya, Akihiro 7736

F45 Homology and homotopy of BO and BU; Bott periodicity

Kultse, Rolf 9354 Wu, Ching-mu 7725  
Schochet, Claude 46020

F50 Stable classes of vector space bundles, K-theory (For algebraic K-theory, see 18F25.)

Novikov, S. P. 1994

F60 Microbundles and block bundles

Rourke, C. F.; et al. 9327, 9328 Sanderson, B. J.; et al. 9327, 9328

## F65 Generalizations of fiber spaces and bundles

Hilton, P. J.; et al. 5996, 5997     Roitberg, Joseph; et al. 5996, 5997  
James, I. M. 6004

## 55Gxx Operations and obstructions

## G10 Steenrod algebra

Adams, J. F.; et al. 3520     Priddy, Stewart; et al. 9318  
Kraines, D. 9317     Tangora, Martin; et al. 9318  
Margolis, H. R.; et al. 3520, 9318

## G15 Symmetric products, cyclic products

Feder, S. 6025

## G30 Massey products

Alexander, J. C. 2700     Smith, V. P. 1156  
Chen, Kuo-tsai 4411

## G35 Obstruction theory

Anderson, Douglas R. 2713     Steenrod, Norman E. 7705  
Matsumoto, Yukio 6013     Thomas, C. B. 9355

## G40 Sectioning fiber spaces and bundles

Booth, Peter I. 7707, 7708     McClendon, James F. 6002  
Lam, Kee Yuen 6024

## G45 Postnikov systems, k-invariants

Robinson, C. A. 7714

## 55Hxx Spectral sequences

## H15 Adams spectral sequences

Zahler, Raphael 9332

## H20 Eilenberg-Moore spectral sequences

Kraines, David; et al. 9331     Schochet, Claude; et al. 9331

## H25 Generalized cohomology

Held, R. P.; et al. 1191     Stur, Ulrich; et al. 1191

## H99 None of the above, but in this section

Buhstaber, V. M. 9330

## 55Jxx Applied homological algebra (See also 18Gxx.)

## J99 None of the above, but in this section

Atiyah, M. F.; et al. (344)     Nienhuys-Cheng, S. H. (349)  
Bauer, F. W. (333)     Radu, Alexandru Gh. (338, 340)  
Chislett, E.; et al. 3518     Segal, G. B.; et al. (344)  
Hoo, C. S.; et al. 3518

## 57-XX MANIFOLDS AND CELL COMPLEXES (For complex manifolds, see 32C10.)

## -01 Elementary exposition (collegiate level)

Gramain, André 41181

## -02 Advanced exposition (research surveys, etc.)

Horvatić, Krešo 2714     Schultz, Reinhard 6015

## 57Axx Topological manifolds

A05 Topology of  $E_2$ , 2-manifolds

Birman, Joan S. 4376     Gramain, André 41181  
Birman, Joan S.; et al. 1169, 9334     Hilden, Hugh M.; et al. 1169  
Chillingworth, D. R. J. 2701     Jenkins, James A. 4377  
Chillingworth, D. R. J.; et al. 9334     Tondra, Richard J. 5979

A10 Topology of  $E_3$ , 3-manifolds (See also 55Axx.)

Anderson, E. H. 4378     Jaco, William 9325  
Brown, Marianne 7717     Rosen, Harvey; et al. 4383  
Cannon, J. W. 5980     Row, W. H., Jr. 6006  
Daverman, R. J. 4379     Schurle, Arlo W. 1139  
Daverman, Robert J.; et al. 1136     Taylor, Michael D.; et al. 4383  
Eaton, William T.; et al. 1136     Tsukui, Yasuyuki 1140  
Feustel, C. D. 4381, 4424     Voxman, William 2685  
Griffith, E. C. 5981

A15 Topology of  $E_n$ ,  $n$ -manifolds ( $3 < n < \infty$ )

Bondar, A. V. (9296)     Rogers, James T., Jr.; et al. 5982  
Daverman, Robert J. 4380     et al. 4382  
Patkowska, H. 1138     Rubin, Leonard R. 4382  
Poensar, Valentin 9304     Tollefson, Jeffrey L.; et al. 5982

## A20 Topology of infinite-dimensional manifolds (See also 58Bxx.)

Chapman, T. A. (9359)     Henderson, David W. 2754

## A30 Engulfing

Edwards, Robert D.; et al. 4423     Glaser, Leslie C.; et al. 4423

## A35 Imbeddings and immersions

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Daverman, Robert J. 4422     Yasui, Tautoma 1192  
Kurata, Masahiro 9336

## A45 Flatness

Rushing, T. B. 4430

## A55 Microbundles

Chasin, R. L. 6009     Stern, Ronald J. 1174  
Matsumoto, Yukio 7719

## A60 Cellularity

Siebenmann, L. C. 4431

## A65 Algebraic topology of manifolds

Adachi, Masahisa 4421     Hsiang, Wu-chung 9340  
Bauer, Joachim 2712     Lungulescu, Bogdan 7716  
Feustel, C. D. 4424     Stasheff, James D. 6000

## A70 Cobordism

Anderson, Douglas R. 2713     Okabe, Tsuneharu 2716  
Brown, Edgar H., Jr. 2719

## A99 None of the above, but in this section

Mather, John W. 5141

## 57Bxx Generalized manifolds (See also 18F15.)

## B10 Poincaré duality spaces

Cohen, Joel M.	9333	Maunder, C. R. F.	6007
Greenfield, Stephen J.; et al.	5420	Mišenko, A. S.	2715
Levitt, Norman	4419, 9337	Quinn, Frank	6014
		Sklyarenko, E. G.	1170
		Wallach, Nolan R.; et al.	5420

## B99 None of the above, but in this section

Hass, Dennis C.	4426
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## 57Cxx PL-topology

## C05 The general topology of complexes

Fritsch, Rudolf	2693	Wright, Perrin	9338
Okamoto, Sigeru	1152a-b		

## C10 Simple homotopy type, Whitehead torsion, Reidemeister-Franz torsion, etc.

Smith, Larry	6016	Swarup, G. Ananda	2717
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## C15 Triangulating manifolds

Hollingsworth, John; et al.	6011	Sher, R. B.; et al.	6011
Matsumoto, Yukio	6013		

## C20 Cobordism

Conner, F. E.; et al.	7721, 7722	Smith, Larry; et al.	7721, 7722
Kvun, Kyung Whan	7718a-b		

## C25 Comparison of PL-structures: classification, Hauptvermutung

Schults, Reinhard	6015
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## C35 Embeddings and immersions

Edwards, C. W., Jr.	9335	Rushing, T. B.	4430
Gordon, C. McA.	4425	Smith, Anthony	4432
Malyi, B. D.	1173		

## C45 Knots and Links (in high dimensions) [For the low-dimensional case, see 55A25.]

Ivanšić, Ivan	6012	Perron, Bernard	4443
Jupp, P. E.	4428	Summers, D. W.	4400
Kearton, C.	1172	Viro, O. Ja.	7701

## C50 Microbundles and block bundles [See also 55F60.]

Rourke, C. F.; et al.	7720	Sanderson, B. J.; et al.	7720
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## C99 None of the above, but in this section

Hodgson, J. P. E.	6010	Jones, Lowell	1159
Norvatić, Krešo	2714	Myung, Myung Mi	4429

## 57Dxx Differential topology [For foundational questions of differentiable manifolds, see 58Axx; for infinite dimensional manifolds, see 58Bxx.]

## D20 Characteristic classes

Kac, G. A.	7734	Rees, Elmer	7735
Movik, S. F.	1994	Smith, Larry	4437
Ono, Hideo	2736	Thomas, C. B.	(8747)
Osborn, Howard	9349	Zagier, Don	7737

## D25 Vector fields, frame fields, etc.

Chillingworth, D. R. J.	9350	Lobry, C.	9351
Frank, David	7738	Rešetnikov, V. N.	1184
Fuks, D. B.; et al.	7752	Sacker, Robert J.; et al.	7755
Gel'fand, I. M.; et al.	7752	Sell, George R.; et al.	7755
Guillemin, Victor W.	7739	Vey, Jacques	1185
Ibrahim, Jorge	6039	Visik, S. M.	7740
Kohn, J. J.	7753	Zakaljukin, V. M.	4450

## D30 Foliations

A'Campo, Norbert	9352	Pasternack, J. S.	9353
Bernstein, I. N.; et al.	6026	Pugh, C. C.; et al.	1188
Bott, Raoul; et al.	2738	Rosenfeld, B. I.; et al.	6086
Hector, Gilbert	1186, 1187	Sapiro, Ja. L.	4451
Heitsch, James; et al.	2738	Shub, M.; et al.	1188
Hirsch, M. W.; et al.	1188	Thurston, William	7741
Hirsch, Morris W.	1189	Vaisman, Isu	2739
Lamoureux, Claude	1190		

## D35 Differentiable mappings

Belickiy, G. R.	6021	Smith, R. T.	7642
Cerf, Jean	1176	Spallek, Karlheinz	9347
Palamodov, V. P.	7732		

## D40 Imbeddings and immersions

Boéchat, J.	4439	Laudenbach, François	7731
Brown, Richard L. W.	6017	Little, John A.; et al.	2722
Farias, Antonio O.	4440	Matsushima, Yoso	5917
Feder, S.	1177, 6025	Pohl, William F.; et al.	2722
Feustel, C. D.	2721	Porteous, I. R.	1179
Francis, George K.	7726	Rees, Elmer	1180, 6023
Hudson, J. F. P.	7728	Rohlin, V. A.	7733
Hunt, L. R.	5402	Spring, David	4444
James, I. M.	7729	Wegner, Bernd	2727, 2728
Kurzweil, Jaroslav	6022		

## D45 Singularities of differentiable mappings

Fukuda, Takuo	7727	Porteous, I. R.	2723, 2724
Menn, Michael	1178	Ronga, F.	2725

## D50 Diffeomorphisms

Wilson, F. Wesley, Jr.	4445
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## D55 Differentiable structures

Karcher, Hermann	7730	Roitberg, Joseph	4436
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## D65 Surgery and handlebodies

Matsumoto, Yukio	6008	Quinn, Frank	6014
Mišenko, A. S.	2715, 2734, 2735		

## D70 Critical points and critical submanifolds

Gramain, André	*1181	Pitcher, Everett	9346
Khabbas, Samir; et al.	9345	Pitcher, Everett; et al.	9345

## D75 0- and SO-cobordism

Burlet, G.	4433	Suzuki, Haruo	2720
Kahn, Peter J.	1183	Uchida, Fuchii	9343
Schochet, Claude	*6020	Wu, Ching-mu	7725, 9344
Shibata, Katsuyuki	7723		

## D80 h- and s-cobordism

Lashof, R.; et al.	4434	Shaneson, J. L.; et al.	4434
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## D85 Equivalent cobordism

Landweber, Peter S.	6028	Stong, R. E.	4449
Quillen, Daniel	7743	Wasserman, Arthur	4438

## D90 Other types of cobordism

Gershenson, Hillel H.	6018	Mišenko, A. S.	4442
Johnson, David Copeland; et al.	2696	Ossa, Erich	2743
Kamata, Masayoshi	6019	Ray, Nigel	9341, 9342
Kultze, Rolf	1175	Smith, Larry; et al.	2696
		Stong, R. E.	7724

## D95 Realising cycles by submanifolds

Fuks, D. B.; et al.	2737	Gel'fand, I. M.; et al.	2737
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## 57Exx Topological transformation groups [See also 20E40, 22-XX, 54H15, 58D05.]



E05 *Topological properties of groups of homeomorphisms*

Barre, Raymond	2740	Thornton, M. C.	1142
Brechner, Beverly	1141		

E10 *Compact groups of homeomorphisms*

Zjuzin, Ju. V.	9149
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E15 *Compact Lie groups of differentiable transformations*

Arnol'd, V. I.	(6331)	Ku, Mei-chin; et al.	7745
Groh, Hansjoachim	(1036)	Whitarjan, V. O.	2741
Gusein-Zade, S. M.	9339	Petrie, Ted	2744
Kawakubo, Katsuo	1195	Rees, Elmer	1180
Kawakubo, Katsuo; et al.	1194	Uchida, Fuichi; et al.	1194
Ku, Hsu-tung; et al.	7745	Zagier, Don	2745

E20 *Noncompact Lie groups of transformations*

Geronimus, A. Ju.	2742	Weinstein, Alan	9358
Simonjans, L.	(3499)		

E25 *Groups acting on specific manifolds*

Loos, Ottmar	4460	Petrie, Ted	6029
Margulis, G. A.	(445)	Scheerer, Hans	2086
Ouzilou, René	1203	Stepanov, N. V.	4462
		Zvengrowski, Peter	(9329)

E30 *Discontinuous groups of transformations*

Jones, Lowell	4427	Myung, Myung Mi	4429
López de Medrano, S.	*7747		

E99 *None of the above, but in this section*

Strelcyn, J.	4172
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57Fxx *Homology and homotopy of topological groups and related structures*F10 *Homology of Lie groups*

tom Dieck, Tammo	7744	Richardson, R. W., Jr.	(8771)
Quillen, Daniel	7743		

F15 *Homology of homogeneous spaces of Lie groups*

James, I. M.	6027	Schneider, Victor	7748
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F35 *Applications of Eilenberg-Moore spectral sequences [See also 55F20, 55H20.]*

Held, R. F.; et al.	1191	Suter, Ulrich; et al.	1191
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F99 *None of the above, but in this section*

Buhstaber, V. M.; et al.	253	Ossa, Erich	2743
de la Harpe, Pierre	*4162, 5770	Ramer, Roald; et al.	5771
de la Harpe, Pierre; et al.	5771	Stepin, A. M.	5316
Novikov, S. P.; et al.	253		

58-XX *GLOBAL ANALYSIS, ANALYSIS ON MANIFOLDS (For real-analytic and complex manifolds, see 32Cxx; for geometric integration theory, see 49F20, 49F22.)*58Axx *General theory of differentiable manifolds*A05 *Differentiable manifolds, foundations*

Warner, Frank W.	*4312
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A10 *Differential forms*

de Barros, Constantino M.	4308	Stoll, Wilhelm	9348
Rodin, Ju. L.	(8823)	Verona, Andrei	4446

A20 *Jets*

Bochnak, J.; et al.	1059	Bojasiewicz, S.; et al.	1059
Fillo, Eugenio	4441	Takens, Floris	2726
Guy, Roland A.	4309		

A25 *Currents*

Harvey, F. R.; et al.	5409	Lelong, Pierre	594
King, J. R.; et al.	5409		

A30 *Vector distributions (sub-bundles of the tangent bundles)*

Wessely, T.	7634
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58Bxx *Infinite dimensional manifolds [See also 57A20.]*B05 *Homotopy and topological questions*

Burghel, Dan; et al.	1202	Duma, Andrei; et al.	1202
Chapman, T. A.	9359	Rens, Peter	7761
Cutler, William H.	7759	West, James E.	2756

B10 *Differentiable and holomorphic questions*

Ouzilou, René	1203	Tromba, A. J.	4461
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B15 *Fredholm structures*

Bells, James, Jr.	2753	Tromba, A. J.	7762
Kuo, Hui-Hsiung	4459		

B20 *Riemannian, Finsler, and other geometric structures*

Craioveanu, M.	7758	Marsden, J.	2755
Gähler, Siegfried; et al.	2751	Maxim, Liliana	6038
Gähler, Werner; et al.	2751	Reckziegel, Helmut	1204
Hurt, Norman E.	6041	Sekacki, V. V.	1205
Kac, G. A.	7734	Titarenko, Ju. V.	1090

B99 *None of the above, but in this section*

Ghosh, N. N.	6037	Ramis, Jean-Pierre	*2205
Loos, Ottmar	4460		

58Cxx *Calculus on manifolds*C20 *Differentiation theory (Câteaux, Fréchet, etc.)*

Ghosh, N. N.	6037	Pisanelli, Domingos	3788
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C99 *None of the above, but in this section*

Mitteau, Jean-Claude	7763
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58Dxx *Spaces and manifolds of mappings*D05 *Groups of diffeomorphisms and homeomorphisms as manifolds [See also 22Exx, 57E05.]*

Antonelli, P. L.; et al.	1193	Lawson, Terry C.	7746
Burghel, D.; et al.	1193	Omori, Hideki	4452
de la Harpe, Pierre	7760	Ouzilou, René	1203
Kahn, P. J.; et al.	1193		

D15 *Manifolds of mappings [See also 54C35.]*

Earle, Clifford J.	(5343)	Hubbard, John H.	4446
Harvey, W. J.	(7046)		

D99 *None of the above, but in this section*

Cerf, Jean	1176
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58Exx Critical point theory (For the finite dimensional case, see 57D70; for variational problems, see 49F15.)

B05 Abstract theory (Morse theory, Ljusternik-Schnirelman theory, etc.)

Clark, David C.	5836	O'Neill, T.; et al.	7555
Geoghegan, Ross	4349	Skripnik, I. V.	1206, 7540
Mil'man, D. P.	5838	Thomas, J. W.; et al.	7555
Musshaus, Roger D.	5839	Trnba, A. J.	4461
Okabe, Tsuneharu	2716	Ucci, Jack	7706

E10 Application to theory of geodesics

Eberlein, Patrick	4453	Parker, George D.	7754
Mršević, Mita	2615		

E15 Applications to extremal problems in several variables

Daniljuk, I. I.	2749	Fomenko, A. T.	1199, 2750
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E99 None of the above, but in this section

Grin', A. N.	995	Sapronov, Ju. I.	1009
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58Fxx Differentiable dynamical systems (For abstract and symbolical topological dynamics, see 28A65, 34C35, 54H20.)

F05 Hamiltonian and other special systems

Easton, Robert	2733	Gordon, William B.	1200
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F10 Stability theory

Elliott, David L.	6030	Mostowski, T.	9356
Franks, John	6031	Witecki, Zbigniew	2748
Gibbons, Joel C.	1196, 1197	Plante, J. F.; et al.	4455
Guckenheimer, John	6032	Porteous, Hugh L.	6035
Gurevič, B. M.	6033	Pugh, Charles; et al.	4456
Hirsch, Morris W.	7750	Shub, Michael; et al.	4456
Klarke, Bernard	5810	Simon, Carl F.	4457
Livšic, A. N.	2746	Takens, Floris	9357
Mather, J. N.	2747	Thurston, W. P.	4455

F15 Hyperbolic structures (expanding maps, Anosov systems, etc.)

Brown, Rufus	7749	Klingenberg, W.	6034
Fuks, D. B.; et al.	2737	Nevhouse, Sheldon E.	4454
Gol'fand, I. M.; et al.	2737	Pugh, C. C.; et al.	1188
Hirsch, M. W.; et al.	1188	Shub, M.; et al.	1188

F20 Periodic points and zeta functions

Ray, D. B.; et al.	4447	Singer, I. M.; et al.	4447
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F99 None of the above, but in this section

Babirow, T.; et al.	3880	Malgrange, Bernard	2234
Day, Jane M.; et al.	(8761)	Muhamadiev, E.; et al.	3880
Hofmann, K. H.; et al.	(8761)	Boštaljivili, A. N.	6036

58Qxx Differential operators on manifolds

Q05 Elliptic complexes [See also 35N15.]

Cordes, H. O.	1198	Spencer, D. C.	7756
Patodi, V. K.	1201	Sweeney, W. J.	7757
Skoda, Henri	586	Vigué, Jean-Pierre	3783, 3784

Q10 Index theorems and fixed point theorems

Kawakubo, Katsuo; et al.	2752	Raymond, Frank; et al.	2752
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Q99 None of the above but in this section

Asencott, Robert	754	Gromes, Wolfgang	748
Cerezo, A.; et al.	7751	Ivrii, V. Ja.	7232
Pan Ngok Thao	5813	Kawai, Kazumitsu; et al.	5915

Kondaurov, M. T.	4310	Rouvière, F.; et al.	7751
Libin, A. S.	2526	Sario, Leo; et al.	5915
Rogov, V.-B. K.	4458	Tayoshi, Takao	4219

58H05 Pseudogroups (infinite dimensional Lie groups) and deformations of structures (See also 22E65.)

de la Harpe, Pierre	6040, 7760	Romer, Roald; et al.	2758
de la Harpe, Pierre; et al.	2758	Srinivasacharyulu, Kilambi	6042
Hurt, Norman E.	6041	Stepanov, N. V.	4462

60-XX PROBABILITY THEORY AND STOCHASTIC PROCESSES (For additional applications, see 10Kxx, 42A36, 62-XX, 90-XX, 92-XX, 93-XX, 94-XX.)

-01 Elementary exposition (collegiate level)

(Janič, Radovan R.)	(*6554)	Introducing young people to scientific work	(*6554)
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-02 Advanced exposition (research surveys, etc.)

Goldman, Malcolm	*1207
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60A05 Axioms, foundations

Bodiu, G.	4463	Landers, Dieter; et al.	(2761)
Fine, Terrence	2759	Marsaglia, George	7764
Hesse, Mary	(6)	Rogge, Lothar; et al.	(2761)
Hintikka, Jaakko	(6102)	Rybakov, V. I.	(2762)

60Bxx Probability theory on algebraic and topological structures

B05 Probability measures on topological spaces

Boulicaut, P.	6043	Kröe, Paul	1209
Dobrušin, R. L.	7765	Tortrat, A.	4466
Frank, M. J.	1208	Vahanija, H. N.	6047

E10 Convergence of probability measures, invariance theorems [See also 28A65.]

Landers, Dieter; et al.	2761	Rogge, Lothar; et al.	2761
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E15 Probability measures on groups, Fourier transforms, factorisation

Bingham, N. S.	9361	Molčanov, S. A.; et al.	7770
Bingham, N. S.	9362	Mukherjee, A.	2764
Brissaud, Marcel	6044	Ponomarenko, O. I.	1210
Cuculescu, I.	4464	Ruhin, A. L.	1308
Guivarc'h, Yves	6045	Streater, R. F.	(4780)
Heyer, H.; et al.	4465	Tortrat, A.; et al.	4465
Landers, Dieter	7767	Tortrat, Albert	1211
Levit, B. Ja.; et al.	7770	Tutubalin, V. N.	1212
Mallios, Anastasios	2763		

E99 None of the above, but in this section

Darst, Richard B.	491	Ol'man, V. N.	3668
Elliott, E. O.	7766	Pitcher, Tom S.; et al.	(7030)
Fourt, Guy	2120	Raik, E.	7768
Galambos, János	8624	Rao, M. N.	5751
Gopala Krishna, J.	5403	Rybakov, V. I.	2762
Kin, Eijun	5313	Valadier, Michel	5310
Masani, P.	7520	Volkovič, V. L.	9672
Oha, Marilyn K.; et al.	(7030)		

60C05 Combinatorial probability

Best, M. R.	(2003)	Nguyen Hak Puk	6048
Dittrich, H.	7771	Stepanov, V. E.	7773
Kel'mans, A. K.	7772		

## 60D05 Geometric probability

Brooks, Foster	(7598)	Purdue, P.; et al.	6049
Galambos, János	2765	Santaló, L. A.; et al.	6050
Langford, Eric	7774	Shepp, L. A.	4468
Meuts, M. F.; et al.	6049	Yañez, I.; et al.	6050

## 60E05 Distributions, characteristic functions

Alimov, Ju. I.	1213	Mishra, M. N.; et al.	4477
(Bark, A. S.)	(47908)	Mitter, J.; et al.	7781
Brown, B. M.	6073	Morris, Carl; et al.	7777
Campanis, Stamatias; et al.	9363	Obretenov, Apostol	2766
Chevet, S.	7775	Ospov, L. V.	9370
Church, J. D.	9364	Ostrovskiy, I. V.	4474
Čistjakov, G. P.	6051	Pathak, P. K.; et al.	4470
Dieter, U.	7776	Ponjakov, V. V.	2767
Dichtjar', M. B.	(6727)	Proschan, F.; et al.	7778
Dunnage, J. E. A.	4469	Rubin, Herman; et al.	7777
Eaton, Morris L.; et al.	4470, 7777	Samal, G.; et al.	4477
Esary, J. D.; et al.	7778	Sil'vestrov, D. S.	1242
Fourt, Guy	4471	Steutel, F. W.; et al.	7780
Galambos, János	(1214), 7779	Teicher, Henry	9373
Griffiths, R. C.	4472	Ukšanović, Jovan B.	4475
Kalinauskaitė, N.	1215	Wang, Y. H.	1216
Katti, S. K.; et al.	2768	Wani, J. K.	4467
Kellison, J.; et al.	7780	Warde, W. D.; et al.	2768
Kruglov, V. M.	6052	Wolfe, Stephen James	6055, 9365
Letac, Gérard	4473	Yang, Chung-how; et al.	4476
Ling, K. D.	6053	Yap, Kim Yew; et al.	4476
Liu, Bede; et al.	9363	Probability functions	(47908)
Livšic, L. Z.	6054	Tables of probability functions	(47908)
Mathur, Y. D.; et al.	7781		

## 60Fxx Limit theorems

## F05 Central limit and other weak theorems

Bakštyš, A.	1218	Nematov, I.; et al.	4485
Banya, J.	4478	Nikitin, Ja. Ju.	(2848), 9369
Banya, J.; et al.	4479	Paulauskas, V. I.	2775
Bikelis, A.	9366	Petrov, V. V.	1225
Block, H. W.	7782	Resnick, Sidney I.	(1258)
Brown, B. M.	6057	Révész, P.	1226
Chevalier, Jacques	4481, 4482	Resnick, S. V.	1227
Dubrovin, V. T.; et al.	6059	Riečan, Beloslav	2776
Džahangirova, F. A.	2769	Saulis, L. I.	6063
Freyer, B.	7783	Saulis, L. I.; et al.	4486
Gorostiza, Luis G.	7784	Sen, Pranab Kumar	6064
Höglund, Thomas	7785	Sen, Pranab Kumar; et al.	9367
Kalinauskaitė, N.; et al.	4479	Šeravašidse, T. L.	1228
Kruglov, V. M.	7769	Šeravašidse, T. L.; et al.	4486
Ladokhin, V. I.; et al.	6059, 7786	Shorrock, R. W.	4487
Lapinskas, S.	4484	Skvortsov, A. E.	9371
Mamatov, M.; et al.	4485	Srechari, M.	2777
Marušin, M. H.	1223	Stout, William F.	(2778)
Mijnheer, J. L.	7787	Survila, P.	4488
Miller, R. G., Jr.; et al.	9367	Szász, P.	9372
Moskvin, D. A.	9368	Tomkins, R. J.	1229, 7789
Moskvin, D. A.; et al.	6059, 7786	Topsøe, Flemming	1230
Nahin, A. B.	6062	Valčius, P. S.; et al.	4479
Nagaev, S. V.	7788	Wolfe, Stephen James	7790

## F10 Large deviations

Amosova, N. H.	1217	Fuk, Dao Ha; et al.	2772
Anorina, L. A.	6056a-b	Nagaev, S. V.; et al.	2772
Beralidse, S. S.	2770, 4483		

## F20 Zero-one laws

Blum, Julius R.; et al.	9360	Pathak, Pramod K.; et al.	9360
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## F99 None of the above, but in this section

Alexits, Georg	4044	Ivčenko, G. I.	6060
Brown, B. M.; et al.	4480	Kalinin, V. M.	1222
Dehardt, J.	6058	Kovalenko, I. N.	6061
Eagleson, G. K.; et al.	4480	Kosačenko, Ju. V.	2773
Fischler, Roger	2771	Maslova, N. B.; et al.	1221
Fisher, Lloyd	1219	Mitalauskas, A. A.	2774
Galambos, J.	(5101)	Paulauskas, V.	1224
Ibragimov, I. A.; et al.	1221	Schmidt, K.	4065

## 60Gxx Stochastic processes

## 005 Foundations of stochastic processes

Grigelionis, B.	2780	Theodorescu, R.; et al.	*2781
Iosifescu, M.; et al.	*2781		

## 010 Stationary processes

Arak, T.	2787	Eisenberg, Bennett	7803
Beljaev, Ju. E.	4489	Ibragimov, I. A.	7805
Bentkus, R.	2788	Katkovnik, V. Ja.	9383
Blanc-Lapierre, André; et al.	7802	Lefèvre, Claude; et al.	7802
Dragan, Ja. P.	1244	Zerakidze, Z. S.	4492
		Žurbenko, I. G.	7806

## 015 Gaussian processes

Arak, T. V.	7798	Lapinskas, R.	9382
Beljaev, Ju. K.; et al.	9380	LePage, Raoul D.	6046
Eisenberg, Bennett	7799	Mirošin, R. M.	1246
Gerasim, V. A.	6066	Mosko, V. P.	7794
Grinbaum, F. Alberto	9381	Pierre, Percy A.	6072
Haofer, A. M.	7804	Piterberg, V. I.; et al.	9380
Idrisova, S.	7800	Rosanol, Ju. A.	4491, 7801
Mačnova, T. I.	1236	Skorohod, A. V.	2790
Kawada, Takayuki	6071	Zerakidze, Z. S.	2786

## 017 Sample path properties

Brillinger, David R.	9375	Sil'vestrov, D. S.	1241, 2784
Kozachenko, Ju. V.	(2773)		

## 030 Continuity and singularity of induced measures

Grigelionis, B.	2760	Kawada, Takayuki	6067
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035 Applications (signal detection, filtering, etc.)  
[See also 94A05.]

Stratonovič, R. L.	(4611)		
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## 040 Stopping times

Delbaen, F.; et al.	1234	Haezendonck, J.; et al.	1234
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## 045 Martingale theory

Báez-Duarte, Luis	9374	Mahoun, Albert; et al.	2752
Brown, B. M.; et al.	2779	Schwartz, Laurent; et al.	2782
Cairol, Renzo	6065	Stout, William F.	2778
Heyde, C. C.; et al.	2779	Uhl, J. J., Jr.	2785
Maurey, Bernard; et al.	2782	Vinti, Calogero	454

## 050 Sums of independent random variables

Džafarov, K. M.; et al.	1232	Szász, D.	1240
Hanson, D. L.; et al.	1220	Skorohod, A. V.; et al.	1232
Maslova, T. I.; et al.	1232	Wright, F. T.; et al.	1220

## 099 None of the above, but in this section

Jucan, G. P.	4490	Piranašvili, S. A.	9377
Crisma, Lucio	7792	Poculuev, A. V.	6070
Debes, Hermann; et al.	1237	Riskin, I. M.	7795, 7796
Dragan, Ja. P.	1231	Rosanol, Ju. A.; et al.	1245
de Finetti, Bruno	1233	San Miguel, M.	9378
Idrisova, S.; et al.	1239	Schwarz, Gideon	2105
Ivković, Z.; et al.	1245	Sigmund, Karl	7022
Kerstán, Johannes; et al.	1237	Sil'vestrov, D. S.	(1242)
Kirčev, K. P.	6068, 6069, 7793	Smorodinsky, Meir	7023
Léman, Alfred	1238	Sudderth, William D.	9379
Malevič, T. I.; et al.	1239	Woyczyński, W. A.	1243
Neuhäus, Georg	2783	Žurbenko, I. G.	7797
Pierre, Percy A.	9376		

## 60Hxx Stochastic analysis

## H05 Stochastic integrals

Koval'čik, I. M.	2325	Sudakov, V. N.	990
Krylov, N. V.	7841	Taraskin, A. F.	4523
Rykov, Ju. M.	7843		



## H10 Stochastic ordinary differential equations [See also 34F09.]

Alešin, B. V.	2816	Kushner, M. J.	7842
Bunke, H.	7206, 7839	Kuznetsov, S. E.; et al.	7840
Evtugenev, I. V.; et al.	7840	Morozan, T.	6092
Freidlin, M. I.; et al.	7207	Papanicolaou, G. C.; et al.	6093
Hersh, R.; et al.	6093	Sobczyk, Kazimierz	7844
Kallianpur, G.; et al.	6090	Striebel, C.; et al.	6090
KerzJuk, V. I.; et al.	2281	Ventcel', A. D.; et al.	7207
Kolomičec, V. G.; et al.	2281		

## H15 Stochastic partial differential equations

Krše, Paul	1282	Temam, R.	1002
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## H20 Stochastic integral equations

Anderson, William J.	6089	Padgett, W. J.; et al.	1284
Hamdan, M. A.; et al.	7846	Surgailis, D.	7845
Milton, J. Susan; et al.	6091	Tsokos, Chris P.; et al.	1284, 7846, 6091
Nakao, Shintaro	1283		

## H99 None of the above, but in this section

Fleischer, Wilhelm	2131	Kirillov, P. V.	886a-b
Gnedenko, B. V.; et al.	2254	Nakarov, I. P.; et al.	2254
Hersh, R.; et al.	4206	Mjassnikova, I. A.	4222
Jamron, B. R.	7791	Morrison, J. A.	2817
Kahane, J.-P.	7373	Pinsky, M.; et al.	4206

## 60Jxx Markov processes

## J05 Markov processes with discrete parameter

Lodkin, A. A.	497	Puri, Prem S.	1277
O'Brien, George	7810		

## J10 Markov chains

Abrahamse, Allan P.	1260	Lamb, Charles W.	9391
Anisimov, V. V.	4503	Litvinov, O. M.; et al.	4494
Bežanova, Z. I.	1261	Maksimov, V. M.	7822
Burge, William H.; et al.	(1426)	Marlies, G. S.; et al.	6080
Ciuca, G.; et al.	1266	Marušin, M. H.	7823, 7824
Conolly, B. W.; et al.	1264	McGregor, J. H.; et al.	6080
Cornish, A. G.	1262	Medvedev, G. A.	9459
Cukanov, I. M.; et al.	9390	Mihoc, Gh.; et al.	1266
Dunnage, J. E. A.	7820	Misevičius, E.	4506
Ernakov, S. M.; et al.	(7911)	Nefedov, V. S.; et al.	(7911)
Esov, I. I.; et al.	9390	Repin, I. I.; et al.	4494
Formanov, S. K.	6079	Reynolds, John F.	2800
Freedman, David	*1263	Schach, Siegfried	4507
Gergely, T.; et al.	9390	Smith, J. L.	7825
Gibson, A. E.; et al.	1264	Smirnov, M. G.	9392
Goodman, Gerald S.	7821	Spitzer, Frank	7826
Hendricks, W. J.	1265	Taylor, G. C.	7827
Konheim, Alan G.; et al.	(1426)		

## J15 Random walk

Aleškevičienė, A.	6081	Lakatos-Lindenberg, Katja; et al.	(1534)
Bandelow, Christoph	(2074)	Larisse, Jean	4508, 4509
Bedeaux, Dick; et al.	(1534)	Malyšev, V. A.	2804
Bořho, R. V.	7828	Malyšev, V. A.; et al.	1268
Brezis, M.; et al.	9393	Moharir, P. S.	9394
Conolly, B. W.; et al.	2802	Pruitt, William E.; et al.	1250
Cukanov, I. M.; et al.	1267	Rogosin, B. A.	9395
Darroch, J. N.; et al.	2801	Rosenkrantz, W.; et al.	9393
Esov, I. I.; et al.	1267	Sarmenov, O. V.; et al.	2805
Fai', A. M.	6082	Shuler, Kurt E.; et al.	(1534)
Friededt, Bert E.; et al.	1250	Singer, B.; et al.	9393
Gergely, T.; et al.	1267	Weiss, H. A.	9396
Gibson, A. E.; et al.	2802	Whitford, Heather J.; et al.	2801
Gromek, Ja. I.; et al.	1268	Wilkins, J. Ernest, Jr.	1269
Janssen, Jacques	2803	Zaharov, V. K.; et al.	2805

## J20 Applications of discrete Markov processes (social mobility, learning theory, industrial processes, etc.)

Staff, P. J.; et al.	1294	Vagholkar, M. K.; et al.	1294
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## J25 Markov processes with continuous parameter

Dočviri, V. M.	2791	Krylov, N. V.	4493
Kondš, Ryšji	4505		

## J30 Processes with independent increments

Prakasa Rao, B. L. S.	2793
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## J35 Transition functions, generators and resolvents [See also 47D05.]

Dynkin, E. B.	2796	Partzsch, Lothar	1247
Foguel, S. R.	7808	Pittenger, A. O.; et al.	6077
Issac, Richard	9384	Shih, C. T.; et al.	6077
Kingman, J. F. C.	4504	Walsh, John B.; et al.	4502
Meyer, P. A.; et al.	4502	Watanabe, Takesi	6078

## J40 Hunt processes

Taylor, John C.	9389
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## J45 Probabilistic potential theory [See also 31-XX.]

Airault, Hélène	2794b-c	Getoor, R. K.	9386
Beĭlinson, A. A.	(8199)	Kac, Mark	*2798
Brosamer, Gunnar A.	(830)	Kapanadze, Dž. V.	(5396)
Dellacherie, C.	2795	Lamb, Charles W.	7816
Fukushima, Masatoshi	4501	Mokobodski, Gabriel	(3747, 3748)

## J50 Boundary theory

Airault, Hélène	7815	Pittenger, A. O.	2799
Dynkin, E. B.	7807	Razevig, V. D.	7811
Kanda, Mamoru	1253		

## J55 Local time and additive functionals

Knight, F. B.	9387	Pinsky, Mark A.	7818
Monroe, Itrel	7817		

## J60 Diffusion processes [See also 28A65.]

Azencott, Robert	754	Pinsky, Mark A.	4499
Eršov, M. P.	9385	Resnick, Sidney I.	1258
Goldman, Malcolm	6075	Sil'vestrov, D. S.	7819
Hawkes, John	1251, 1252	Svet, S. D.	7813
Kanda, Mamoru	2789	Taraskin, A. F.	9388
Kushner, Harold J.	1256	Tobias, T.	1259
Lipcer, R. E.	(8396, 8397)		

## J65 Brownian motion

Collins, R.; et al.	6137	Isaacson, Dean	4498
Demidova, S. A.	4496	Kaufman, Robert P.	1254
Durbin, J.	1248	Loughlin, John J.; et al.	5288
Földes, A.	2797	Loynes, R. M.	1257
Freedman, David	*6074	Molcan, G. M.	6076
Fuglede, Bent	(5395)	Taylor, S. J.	4500
Goffman, Casper; et al.	5288	Wragg, A.; et al.	6137

## J80 Branching processes (Galton-Watson, birth-and death, etc.)

Andreev, N. V.; et al.	1270	Lamperti, John	7835
Athreya, Krishna B.	1271	Leslie, J. R.; et al.	2806
Athreya, Krishna B.; et al.	7829, 7830	Liemant, Alfred; et al.	4511
Bühler, Wolfgang J.	4510	Matthes, Klaus; et al.	4511
Čistjakov, V. P.	7831, 7832	Mode, Charles J.	7836
Debes, Hermann; et al.	4511	Muhammedhanova, R. I.; et al.	4515
Dishon, Menachem; et al.	4517	Neuts, Marcel F.; et al.	2807
Doney, R. A.	4512	Pinsky, Mark A.	4516
Dubuc, Serge	6083, 9399	Pollak, Edward	2808
Formanov, S. K.; et al.	4515	Radcliffe, J.	6084
Griffiths, D. A.	4513	Resnick, Sidney I.; et al.	2807
Hayde, C. C.; et al.	1272, 2806	Samuels, M. L.	1274
Jirina, Miloslav	4514	Seneta, E.; et al.	1272
Kaplan, Norman	1273	Statland, E. S.; et al.	1270
Karlin, Samuel; et al.	7829, 7830	Weiner, H. J.	6085
Kerstner, Johannes; et al.	4511	Weiss, George H.; et al.	4517
Lehkovskij, V. A.	7834	Yang, Y. S.	1275
		Zukhov, A. M.	9397, 9398

## J85 Applications of branching processes [See also 90Bxx.]

Karev, G. P.	7833	Treskov, S. A.	7837
Médas, Arthur	2792		

## J99 None of the above, but in this section

Dočviri, V. M.	4497	Rozovskiĭ, B. L.; et al.	6086
Pakeev, A. G.	1249	Shimano, Takashi	2141
Gal'čuk, L. I.; et al.	6086	Srivastava, R. C.	6087
Norovitz, S.	5319	Subba Rao, S.; et al.	7838
Keilson, Julian; et al.	7838	Takahashi, Wataru	5317
Knight, Frank B.	1255	Teugels, Josef L.	7814

## 60Kxx Special processes

## K05 Renewal theory

Aleškevičienė, A.	2812	Hodžabagjan, S. S.	4521
Bártfal, F.	2813	Lawrance, A. J.	1280
Cukanov, I. M.; et al.	(1267)	Mogyoródi, J.	2814
Ékov, I. I.; et al.	(1267)	Muhtidinova, N. M.	2815
Fienberg, Stephen E.; et al.	4520	Sántai, T.	2811, 4528
Gergely, T.; et al.	(1267)	Walk, Harro; et al.	9400
Hinderer, Karl; et al.	9400	Zaslavskii, A. E.	9401
Hochman, Howard G.; et al.	4520		

## K10 Applications (reliability, demand theory, etc.)

Cinlar, E.; et al.	1281	Pinsky, M.; et al.	1281
Costello, W. G.; et al.	1293	Taylor, H. M.; et al.	1293

## K15 Markov renewal processes, semi-Markov processes

Anisimov, V. V.	2809	Serfoso, Richard F.	7812
Pinsky, Mark	4495	Sil'vestrov, D. S.	2810

## K25 Queuing theory

Adiri, Igal	4524	Kimbleton, Stephen R.	6392
Afanasyeva, L. G.	8234	Kopocifská, I.	2823
Afanasyeva, L. G.; et al.	7847	Kyprianou, E. K.	1288, 1289
Arya, Krishan Lal	2818	Libura, Marek	7849
Azharov, T. A.	6094	Maggi, Parkash Lal	7850
Balachandran, K. R.	(3050)	Marcenko, I. I.; et al.	9402
Bazarov, V.	1285	Martynov, A. V.; et al.	7847
Bocharov, P. P.	6095	Mel'nik, Ju. I.; et al.	9402
Brodii, S. M.; et al.	9402	Neuts, Marcel F.; et al.	1290
Buzukin, V. G.; et al.	7848	Newell, Gordon F.; et al.	2820
Chen, Shun-zer; et al.	1290	Rani, R. G.; et al.	4809
Cohen, J. W.	1286	Sahin, Iszet	6096, 6097
Cukanov, I. M.	9403	Simonova, S. N.	7851
Emmons, H.	(1571)	Takács, Lajos	6098
Gittins, J. C.	2819	Tarjan, Robert	7852
Grudin, M. M.	(9661, 9799)	Tepličkij, M. G.	9671
Haji, Rasoul; et al.	2820	Tuteja, R. K.	2824
Iglehart, Donald L.	2821	Věduva, I.	(4815)
Jain, J. L.; et al.	4809	Yadin, M.; et al.	1292
Kapadia, Asha Seth	2822	Yechiali, Uri	1582
Kastanov, V. A.; et al.	7848	Zacks, S.; et al.	1292
		Zitek, František	6099

## K30 Applications (congestion, allocation, storage, traffic, etc.) [See also 60J80.]

Brill, Edward A.	4525	Kyprianou, E.	1287
Cinlar, E.	4526	Whitt, Ward	1291

## K35 Interacting random processes, statistical mechanics type models

Harris, T. E.	1235	Ovčinnikov, G. I.	(8190)
Mil'stein, G. N.	7809		

## K99 None of the above, but in this section.

Achou, Oussama; et al.	1279	Pickands, James, III	4519
Belkin, Barry	1276	Reynolds, John F.	1278
Kanter, Marek	4518	Sahin, Iszet; et al.	1279
Murakami, Satoru	(6100)		

## 62-XX STATISTICS

## -01 Elementary exposition (collegiate level)

Dwass, Meyer	*6101
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## -02 Advanced exposition (research surveys, etc.)

Goldman, Malcolm	(*1207)	Wonnacott, Thomas H.; et al.	
Wonnacott, Ronald J.; et al.	*1295		*1295

## 62Axx Foundations

## A05 Invariance and group considerations

Petit, Jean-Luc	1298	Sapožnikov, P. N.	6104
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## A15 The Bayesian approach

Beumer, William H.	1296
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## A99 None of the above, but in this section

Fishburn, Peter C.	9404	Pfanzagl, J.	7339
Hintikka, Jaakko	6102	Sacksteder, Richard	7853

## 62Bxx Sufficiency

## B05 Sufficient statistics and fields

Diveev, N. N.	6103	Pfanzagl, J.	9405
Grigelionis, B. I.	2875	Sapožnikov, P. N.	6105
Linnik, Ju. V.	1297		

## E10 Statistical information theory

Loasfeld, J.	2866	Nemets, T.	6125
Mareika, Roman A.	7881		

## B99 None of the above, but in this section

Pfanzagl, J.	7339
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## 62Cxx Decision theory (For game theory, see 90Dxx.)

## C05 General considerations

Fishburn, Peter C.	2854
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## C10 Bayesian problems; characterisation of Bayes procedures

(Pratt, J. W.)	2855	Van Ryzin, J.	2855
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## C15 Admissibility

Dharmadhikari, S. W.	2852	Joshi, V. M.	9411
Farrell, R. H.	4536		

## C25 Compound decision problems

Huang, J. S.	7870	Taga, Yasushi; et al.	9412
Noda, Kazuo; et al.	9412		

## C99 None of the above, but in this section

Bakut, P. A.	(9797)	Klebanov, L. B.	6118
Dunmore, I. R.	2853		

## 62D05 Sampling theory, sample surveys

Avadhani, M. S.; et al.	4568	Bödel, Egmar	9435
Kalinin, V. M.; et al.	4571, 4572	Čalaevskij, O. V.; et al.	4571, 4572
Kullback, S.	6142	Singh, M. P.; et al.	4569
Morimoto, Haruki	9434	Slepjan, V. A.	7902
Marthy, M. H.; et al.	4569	Sukhatme, B. V.; et al.	4568
Noskov, V. H.	7901	Yao, Jing-shing	1335
Ramakrishnan, M. K.	4570		

## 62Exx Distribution theory

## E10 Characterization and structure theory

Ahuja, J. C.	1299	Heyde, C. C.	2828
Bardorff-Nielsen, Ole	*4527	Ifron, Adnan F.	2829
Bildikar, Sheela	2825	Jensen, D. R.	2830, 7854
Darroch, J. H.; et al.	1300	Kagan, F. M.	4529
Galembos, János	1214	Katti, S. K.; et al.	(2768)
Ghosh, J. K.	2826	Lock, Fulco	*1301

## E10 Continued

Mitra, Sujit Kumar	2832	Stoian, Zaharia	1304
Mustafi, Chandan K.	4530	Stoyan, D.	7857
Olson, W. E.; et al.	2834	Takács, Lajos	1305
Ponjakov, V. V.	(2767)	Talwalker, Sheela	2838
Puri, Prem S.; et al.	2836	Uppuluri, V. R. Rao; et al.	2834
Ratcliff, D.; et al.	1300	Wang, Y. E.	(1216)
Rubin, Herman; et al.	2836	Warde, W. D.; et al.	(2768)
Seely, Justus	1302		

## E15 Distribution of statistics

Alvo, Mayer; et al.	6106	Mehta, J. S.	2831
Csörgő, Miklós; et al.	6106	Mitra, Sujit Kumar	2833
Gupta, A. K.	4528	de Waal, D. J.	7858
Klebanov, L. B.	1324		

## E20 Asymptotic theory

Berk, Robert H.	7859	Kallianpur, G.; et al.	7860
Borwanker, J.; et al.	7860	Lever, William E.; et al.	6108
Davidson, Roger R.; et al.	6108	Mallick, S. A.; et al.	2837
Farrall, R. H.	9406	Mallows, C. L.	7861
Harris, Bernard; et al.	4531	Park, C. J.; et al.	4531
Hoadley, Bruce	6109	Prakasa Rao, B. D. S.; et al.	7860
Judichaka, P. I.	6110	Samiuddin, M.; et al.	2837
Kalinin, V. M.	(1222)	Weiss, Lionel	2839

## E99 None of the above, but in this section

Gokhale, D. V.	2827	Pereverzev, E. S.	7856
Jurinskij, V. V.	7855	Rouanet, H.; et al.	6107
Leclerc, B.; et al.	6107	Stefansky, Wilhelmine	1303
Park, C. J.	2835		

## 62Fxx Parametric inference

## F05 Hypothesis testing

Dobrohotov, I. S.	2850	Mathai, A. M.; et al.	7867
Filaretov, G. F.; et al.	1310	Pillai, K. C. S.; et al.	4534
Gemine, Robert	1309	Pinskij, A. I.; et al.	2851
Guenther, William C.	6116	Rathie, P. N.; et al.	7867
Harris, Bernard	(4555)	Rothman, Edward D.	6117
Hasladze, E. V.	9408	Sagdar, D.	4535
Jacquet-Lagrèze, E.	9409	Schaafma, Willem	1311, 7868
Kemphorne, Oscar; et al.	7869	Sinegub, G. G.; et al.	1310
Kogjakin, A. A.; et al.	1310	Volodin, I. N.	9410
Kusnir, A. F.; et al.	2851	West, Eric W.; et al.	7869
Li, Hung C.; et al.	4534		

## F07 Ranking and selection

Rizvi, M. Haseeb	9413
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## F10 Estimation

Arak, T.	(2787)	Moran, P. A. P.	9407
Bentkus, B.	(2788)	Mikitin, Ja. Ju.	2848
Bodin, M. A.	7862	Patell, Ravi K. W.; et al.	2844
Bowman, K. O.; et al.	6111	Pfanzagl, J.	4533
Chao, Min-te	1306	Rubin, A. L.	1308, 6114
Dudevics, Edward J.	4532	Rubin, A. L.; et al.	2846
Fintushal, S. W.	2843	Sanathanan, Lalitha	7864
Fisher, Lloyd; et al.	7863	Schmerkotte, H.	2849
Herman, R. J.; et al.	2844	Shenton, L. R.; et al.	6111
Holevo, A. S.	2876	Sirjaev, A. N.; et al.	1307
Jurinskij, V. V.	6112	Skorohod, A. V.	(2790)
Kagan, A. M.	2845	Smoljak, S. A.	6115
Knopov, P. S.	6113	Stratonovich, R. L.	7865
Legostaeva, I. L.; et al.	1307	Woodroffe, Michael	7866
Linnik, Ju. V.; et al.	2846	Yakovitz, S. J.; et al.	7863
Mann, Nancy R.	2847	Zerakidze, Z. S.	(2786)

## F15 Bayesian inference

Bland, R. P.; et al.	4537	Mammitasch, Volker	7871
Dixon, D. O.; et al.	4537	Mukhopadhyay, A. C.; et al.	2857
Freeman, P. R.	2856	Naik, Umesh D.	7872
Geisser, Seymour	6119	Novick, Melvin R.	2858
Guttman, Irwin	4538	Ramamurthy, K. G.; et al.	2857
Harrison, P. J.; et al.	1312	Stevens, C. F.; et al.	1312
Hudimoto, Hiroshi	4539	Yamato, Hajime	7873
Lainiotis, D. G.	6120		

## F20 Asymptotic efficiency

Behadur, R. R.	2842	Rao, C. Radhakrishna	2840, 2841
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## 62Gxx Nonparametric inference

## G05 Estimation

Jurečková, Jana	4553	Wegman, Edward J.	6130
Konakov, V. D.	9423	Yanagawa, Takashi	7894

## G10 Hypothesis testing

Kristák, Milan	2872
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## G15 Tolerance and confidence regions

van der Laan, P.	1325
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## G20 Asymptotic efficiency

Abdalimov, B.	6128	Mount, Kenneth S.; et al.	1326
David, H. T.; et al.	1326	Read, R. R.	9424
(Kemphorne, Oscar)	1326		

## G30 Order statistics

Borges, Rudolf; et al.	9426	Mohanty, S. G.; et al.	4554
Calambos, János	(1214)	Roß, Marc	9425
Gokhale, D. V.; et al.	7896	Puri, M. L.; et al.	7896
Handa, B. R.; et al.	4554	Rogers, Gerald; et al.	9426
Kadane, Joseph B.	1328	Sen, P. K.; et al.	7896
Krauth, J.	7892	Takács, Lajos	1327

## G99 None of the above, but in this section

Ghosh, J. K.	6129	Sen, Pranab Kumar; et al.	47893
Kountouris, E. A.	(6156)	Stanley, Richard M.	7895
Puri, Madan Lal; et al.	7893		

## 62Hxx Multivariate analysis

## H10 Distribution of statistics

Fortunati, P.	7877	Gupta, A. K.	1313
Giri, N.	4541		

## H15 Hypothesis testing

Behara, M.; et al.	4540	Verhovskaja, L. A.	9414
Giri, N.; et al.	4540		

## H20 Correlation analysis, canonical correlation

Griffiths, R. C.	7874	Ivanov, V. V.	4542
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## H30 Classification and discrimination

Buthkevics, Jan	7875	Raudis, E. Ju.	4544
Fortunati, P.	7876	Wagner, Terry J.	7878
Gupta, R. F.; et al.	4543	Yao, Jing-shing	4545
Kabe, D. G.; et al.	4543	Yarbrough, Charles	6122

## H99 None of the above, but in this section

Behboodan, Javad	6121	Khatrri, C. G.	2859
Chang, T. C.; et al.	*1315	Krishnaiah, P. R.; et al.	*1315
Jogdeo, Kumar	1314	Waikar, V. B.; et al.	*1315

## 62Jxx Linear inference

## J05 Regression analysis

Beljaevskij, A. I.	2867	Orsi, Renzo	7884, 7885
Fedorov, V. V.; et al.	1318	Searle, S. R.	*2868
Kolomojev, V. A.	1317	Sinakov, Ju. S.; et al.	7882
Levin, B. R.; et al.	7882	Sinha, Bikas Kumar	7886
Maljutov, M. B.; et al.	1318	Tan, W. Y.	2869
Matusevskij, V. V.	4551	Varga, Annamaria G.	7887
Michelini, Claudio	7883		



## J10 Analysis of variance and covariance

Agnius-Delord, Claudine; et al.	9419	Caine, Sylvain; et al.	9419
Ali, M. M.; et al.	2870	Seely, Justus; et al.	1319
Čaikovskiĭ, V. I.	7888	Tiao, George C.; et al.	2870
		Zyskind, George; et al.	1319

## J15 Paired and multiple comparisons

Bradley, Ralph A.; et al.	4552	Gluskin, A. M.	7890
Davidson, Roger R.; et al.	4552	(Jackson, J. Edward)	4552
Ghosh, Malay	7891		

## 62Kxx Experimental design [See also 05Bxx.]

## K05 Optimal designs

Bechhofer, Robert E.; et al.	6127	Fedorov, V. V.; et al.	(1318)
Baggs, William J.; et al.	9422	Krug, G. K.; et al.	1322, 1323
Buckov, I. N.; et al.	1322, 1323	Leckiy, E. K.; et al.	1323
Draper, Norman R.; et al.	9422	Maljutov, M. B.; et al.	(1318)
Ermurat'skiĭ, P. V.; et al.	1323	Nikiforova, E. S.; et al.	1323
Fedorov, V. V.	1321	Nocturne, Dominique Jean-Marie	6127

## K10 Block designs

Day, A.; et al.	9421	Solov'ev, N. A.	(6640)
Kulshreshtha, A. C.; et al.	9421	Taylor, Malcolm S.	(6224)
Robinson, J.	9420	Wallis, W. D.	7889

## K15 Factorial designs

Federer, W. T.; et al.	2871	Hedayat, A.; et al.	2871
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## K99 None of the above, but in this section

Petersen, I.	6126
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## 62Lxx Sequential methods

## L05 Sequential design

Buckov, I. N.; et al.	1320	Leckiy, E. K.; et al.	1320
Krug, G. K.; et al.	1320		

## L10 Sequential analysis

Srivastava, M. S.	4548
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## L12 Sequential estimation

Cooke, Peter J.	7879	Romanovskiy, I. V.; et al.	1316
Kagan, A. N.; et al.	1316	Rubin, A. L.; et al.	1316
Linnik, Ju. V.; et al.	1316	Schafer, R. E.; et al.	2864
Phatarfod, R. N.	2863	Takenaga, Roy; et al.	2864

## L15 Optimal stopping [See also 60G40.]

Andreev, N. V.; et al.	2860, 2861, 4546, 4547	Schmitz, Norbert	9415
Basu, A. K.; et al.	9417	Sirjaev, A. N.	42865
Gubenko, L. G.; et al.	2860, 2861, 4546, 4547	Statland, E. S.; et al.	2860, 2861, 4546, 4547
Mackevičius, V.	7880	Sudderth, William D.	9416
Owen, W. L.; et al.	9417	Thompson, M. E.; et al.	9417
		Wijman, R. A.	9418

## L20 Stochastic approximation

Fukamichi, Haruo	2862	Nevel'son, M. B.	6124
Krasulina, T. P.	6123		

## L99 None of the above, but in this section

Vajda, Igor	4549
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## 62Mxx Inference from stochastic processes

## M05 Markov processes

Rosa, Luis B.	9429
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## M10 Time series, auto-correlation, regression, etc.

Bartlett, M. S.	4561, 4562	Macicot, R. L.	7898
Dragan, Ja. P.; et al.	9433	Roughan, J. L.; et al.	7899
Evans, H. H.; et al.	7899	Rylov, Ju.	6140
Hannan, E. J.	4564	Schwartz, S. C.	4566
Kuksenko, V. I.; et al.	9433	Tarashin, A. P.	4567
Mibaĭlova'kiĭ, V. M.; et al.	9433	Vol'gin, K. S.; et al.	9433
Mineo, Antonino	9432		

## M15 Spectral analysis of time series

Alekseev, V. G.	4560	Konončuk, L. P.	7897
Beutler, Frederick J.; et al.	4560	Leneman, Oscar A. Z.; et al.	4550
Bruckner, L. A.	6136	Liggett, W. S., Jr.	2877
Dragan, Ja. P.	9431	Pagano, M.	1334

## M20 Prediction [See also 60G25.]

Oranger, C. W. J.	4563	Robertson, James B.	6139
Nagorniĭ, V. N.	1333	Viviani, Paolo	7900

## M99 None of the above, but in this section

Docviri, V. M.	9430	Nakamizo, Takayoshi	6138
Holevo, A. S.	1332	Zurbenko, I. G.	6141
Mullooly, John P.	4565		

## 62Nxx Engineering statistics

## N05 Reliability and life testing

Abe, Shun-ichi	6131, 6132	Sarkar, Tapas K.	2874
Andronov, A. M.; et al.	9427	Sedjakin, N. M.; et al.	6134
Basu, A. P.; et al.	2873	Solov'ev, A. D.; et al.	1330
Harris, Bernard	4555	Šranka, R. K.	9428
Jastrebeneckiy, M. A.	6133	Störmer, Morand	*1331
Kabanov, G. A.; et al.	6134	Ušakov, I. A.; et al.	1330
Lochner, Robert H.; et al.	2873	Vladimirov, M. I.; et al.	9427
Mitronin, V. A.	4556	Volovnik, O. A.	4558

## N10 Quality control [See also 90Bxx.]

Fazylov, N.; et al.	6135	Sirašdinov, S. H.; et al.	6135
Postelnicu, Tiberiu	1329		

## N99 None of the above, but in this section

Fazylov, N.; et al.	4557	Sirašdinov, S. H.; et al.	4557
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## 62Pxx Applications [See also 82-XX, 90-XX, 92-XX.]

## P10 Biometrics

Trommer, R.	1336
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## 62Q05 Statistical tables

Yang, Chung-how	4559
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## 65-XX NUMERICAL ANALYSIS

## -01 Elementary exposition (collegiate level)

(Janif, Radovan R.)	(*6553)	Introducing young people to scientific work	(*6553)
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## -02 Advanced exposition (research surveys, etc.)

Householder, A. S. 41370-41372 Mathematical methods in  
 Sorokin, V. K. 4573 specialized computer  
 Complex control systems 47903 technology  
 Computer technology 47904 Numerical analysis 49437, 47904  
 Cybernetics and computer 47903 Proc. Seminar, Kiev, 47904, 49437, 49438  
 technology 47903

## 65A05 Tables

(Bark, A. S.) 47908 Slavik, Dusan V. 6143, 6144  
 Dutka, Jacques 7906 Probability functions 47908  
 Longman, I. M. 7907 Tables of probability  
 Luke, Yudell L. 4574, 7936, 7937 functions 47908

## 65Bxx Acceleration of convergence

## B05 Extrapolation to the limit, deferred corrections

Opfer, Gerhard 4584 Wuytack, L. 1339

## B99 None of the above, but in this section

Bileckiy, V. I.; et al. (7952) Kruglikova, L. G. 4582  
 Brezinski, Claude 4575, 4576 Lucha, A. Ju. 4628  
 Castinel, Noël 4578 Bor, N. Z.; et al. (7952)

## 65Cxx Numerical simulation (See also 68A55.)

Mihram, G. Arthur (4704)

## C05 Monte Carlo methods

Altaber, J.; et al. 9441 Maghsoudloo, S. 1343  
 Anolik, M. V.; et al. 4585 Mihailov, G. A.; et al. 7913  
 Aseev, V. H.; et al. 1340 Mirošin, R. H.; et al. 4585  
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 Hennequin, P. L.; et al. 9441 Sytenko, L. V.; et al. 1345  
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 Hoshino, Satoshi; et al. 4587 Wood, W. W.; et al. 6151  
 Ichida, Kozo; et al. 4587 Zakrevskiy, A. D. 4590  
 Kargin, B. A.; et al. 7913 Zielinski, Ryszard 7917  
 Lado, F.; et al. 6151

## C10 Random number generation

Antipov, M. V. 6149 Kovalenko, I. H.; et al. 9443  
 Antipov, M. V.; et al. 4586 Kozlov, G. A. 1342  
 Čirikov, B. V.; et al. 4586 Popov, B. A. 7914, 7915  
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 Ishiketa, Tadashi 7912 Sobol', I. M.; et al. 1341  
 Ivnickiy, V. A.; et al. 9443 Subanova, N. I.; et al. 9443  
 Israiliev, F. M.; et al. 4586 Szep, A. 9445

## C99 None of the above, but in this section

Pastirigins, L. 2880, 2881 Methods of mathematical sim-  
 Strongin, R. G. 7916 ulation and the theory of  
 Electrical circuits (47905) electrical circuits (47905)  
 Proc. Seminar, Kiev, 1969 (47905)

65Dxx Numerical approximation (Primarily algorithms;  
 for theory, see 41-XX.)

## D05 Interpolation

Asadullin, E. I. 2883 Kofron, Josef 4593  
 Chen, Kwan-wei; et al. 7928 Koršunov, Ju. M.; et al. 9450  
 Claret, Philippe G.; et al. 4591 Kres, Rainer 7923  
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 Raviart, Pierre-Arnaud; Wang, Ping-lei; et al. 7928  
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## D10 Smoothing, curve fitting

Antonov, G. E.; et al. 2882 Reinsch, Christian H. 4598  
 Cantoni, A. 6152 Young, Jonathan D. 7929  
 Katkovnik, V. Ja.; et al. 2882 Zav'jalov, Ju. S. 6161  
 Kershaw, D. 9449

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Alekseev, A. A. 7919 Moritz, Helmut 7926  
 Bonjour, Pierre 1347 Murty, V. H. 1350  
 Braess, Dietrich 7920 Parsin, V. V.; et al. 7924  
 Brezinski, Claude 1337 Phillips, D. V.; et al. 1355  
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 Kamp, Y.; et al. 6153 Rosman, Bernard H. (4599)  
 Klountouzis, E. A. 6156 Rubinstein, Ja. S. 7950  
 Kovbasenko, B. S.; et al. 2888 Späth, H. 6160  
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 Mendelbaum, Henri-Georges 4596 Zaldak, M. I.; et al. 2888  
 Mitchell, A. R.; et al. 1349 Zienkiewicz, O. C.; et al. 1355

## D20 Computation of special functions, construction of tables

Amos, D. E.; et al. 7930 Luke, Yudell L.; et al. 2887  
 Banvalov, B. S. 7931 Matta, F.; et al. 4604  
 Bardo, Richard D.; et al. 7932 Müller, R. S.; et al. 1357  
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 Chipman, D. M. 7934 Ruedenberg, Klaus; et al. 7932  
 Cody, W. J.; et al. 4601 Spellucci, F. 7938  
 Collins, George E. 7970 Spira, Robert 4605  
 Gautschi, Walter 2889 Thacher, Henry C., Jr.;  
 Hillstrom, K. E.; et al. 4601 et al. 4601  
 Kasher, B. G.; et al. 7933 Vasudevan, R.; et al. 7933  
 Koenig, Michel; et al. 1425 Willis, John G. 7939  
 Linhardt, R. J.; et al. 1357 Wimp, Jet; et al. 2887  
 Zolésio, Jean-Paul; et al. 1425

## D25 Numerical differentiation

Chanda, Manas; et al. 7982 Klopfenstein, R. W. 2930  
 Engels, H. 4634 Rvachov, V. L.; et al. 8016  
 Huddleston, Robert E. 6155 Sen, Syamal Kumar; et al. 7982  
 Kalinichenko, V. I.; et al. 8016 Vedenev, E. P.; et al. 9490  
 Kasuba, Z. B.; et al. 8016 Židkov, N. P.; et al. 9490

## D30 Numerical integration, quadrature, cubature, etc.

Aksen', M. B.; et al. 4631 Kambo, N. S. 1388  
 Anolik, M. V. 8044 Kasakova, A. A.; et al. 7999  
 Arolaks, M. A.; et al. 7999 Kofron, Josef 2918, 6186  
 Azimova, G. G. 6184 Kozlovskiy, N. Ja. 2919  
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 Dolide, A. D.; et al. 7984 Miller, Richard K.; et al. 6185  
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 Duris, C. S.; et al. 1382 Nikolaev, E. G. 1344  
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 Esser, Henning 9485 Fyhteev, G. H. 2923  
 Esser, Henning; et al. 41385 Fyhteev, G. H.; et al. 4638  
 Feldstein, Alan; et al. 6185 Rabinovits, Philip; et al.  
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 Indoleanu, I.; et al. 4632 Sachdev, S.; et al. 7988  
 Jain, H. K.; et al. 7988 Sameh, Ahmed H. 6189  
 Janovic, L. A.; et al. 500, 1387, 5308 Sanikids, D. G. 6190  
 Johnson, L. W.; et al. 7989 Santucci, Lia 2927  
 Kahaner, David K. 7990 Sharipov, T. H. 6188  
 Kalafida, O. F. 7991 Skoblya, N. S.; et al. 1387  
 Kaljaev, A. V. 7992 Sobolevskiy, P. I.; et al.  
 Kaluzina, E. P. 2917 500, 5308  
 Bokanov, I.; et al. 4638

D30 *Continued*

Stark, Valter J. E.	4639	Tuan, F. D.	7998
Stenger, Frank	4640	Vekova, G. R.; et al.	7999
Takahasi, Hidetosi; et al.	4641	Zamalov, Z. Z.	(2929)
el-Tom, M. E. A.	2928	Zeilberger, D.; et al.	9489
Truta, G.; et al.	4632		

D99 *None of the above, but in this section*

Henze, Dirk	(4592)	Ratschek, H.; et al.	2925
Jones, William B.; et al.	4602	Rešetnikov, V. S.	8042
Kul'ko, I. P.; et al.	8017	Schröder, G.; et al.	2925
Kul'ko, V. F.; et al.	8017	Thron, W. J.; et al.	4602

65E05 Numerical methods in complex analysis (potential theory, etc.) [For numerical methods in conformal mapping, see 30A28.]

Fedenko, M. P.; et al.	(577)	Prešić, Marica D.	(3681)
Liskovec, O. A.; et al.	(577)	Šeško, M. A.	(574)
Neprítvor'onna, L. M.	1358		

## 65Fxx Numerical linear algebra

F05 *Direct methods for linear systems and matrix inversion*

Bunch, J. R.	1367	Kudrinskij, V. Ju.; et al.	6172
Domorjad, A. P.	(6834)	Miller, Webb	7957
Douglas, Allan	4615	Molčanov, I. M.; et al.	9471
Gabdulhaev, B. G.	4577	Nikolenko, L. D.; et al.	9471
Guenther, Ronald	1369	Orden, A.	2897
Ho Thu An	6171	Ostapčuk, V. S.; et al.	6172
Kiričenko, M. P.; et al.	9471	Reid, J. K.	7910
Königshofer, F.	4618		

F10 *Iterative methods for linear systems [See also 65W20.]*

Björck, Å.; et al.	4613	Kovbasenko, B. S.; et al.	9473
Bowie, C.; et al.	4613	Maĕrgoiz, M. D.	6147
Černyšenko, V. M.	9477	Porsching, T. A.	6148
Chanda, Manas; et al.	7955	Sen, Syamal Kumar; et al.	7955
Gribanov, Ju. I.	9466	Sisler, Miroslav	1375
Jennings, Alan	1338	Stewart, G. W.	6182
		Žaldak, M. I.; et al.	9473

F15 *Eigenvalues, eigenvectors*

Businger, P. A.	2904	Keeping, A. J.	1376
Clint, Maurice; et al.	6174	Kel'mans, A. K.	7964
Dekker, T. J.; et al.	6175	McDonald, J. F.	1378
Dovbys, L. H.; et al.	9110	Noda, Takashi	4620
Elisner, L.	2905, 6835	Paardekooper, M. H. C.	2906
Feschenko, S. F.; et al.	6176	Reinsch, Christian H.	4621
Fox, Kenneth; et al.	7963	Schmidt, Dirk	9474
Gavrilova, E. S.; et al.	6176	Schettlick, H.	6177
Householder, A. S.; et al.	7963	Sekrieru, I. V.	9475
Ikranov, N. D.	5149	Sudakov, V. N.; et al.	9110
Il'jufin, A. G.; et al.	6176	Traub, J. F.; et al.	6175
Jennings, Alan; et al.	6174	Williams, F. W.	2908

F20 *Overdetermined systems, pseudoinverses*

Sreedharan, V. P.	2899	Voevodin, V. V.; et al.	2902
Tanabe, Kunio	2900	Volović, V. M.; et al.	2902
Teverson, R. P.	2901, 7960		

F25 *Orthogonalization*

Šapot, D. V.	2898		
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F30 *Other matrix algorithms*

Andrews, Harry C.	6170	Hesbet, R. K.	9472
Cullen, C. G.	1356	Phillips, James L.	4619
Gastinel, H.	4616	Syc, Cs.	7958
Golova, G. P.	9464	Teverson, R. P.	7959
Kettler, Paul C.; et al.	1366	Weil, Roman L.; et al.	1366
Levin, Mordechai	9469	Winograd, S.	6173
Mangasarian, O. L.	7956		

F35 *Matrix norms, conditioning, scaling [See also 15A12, 15A60.]*

Bunch, James R.	4614	Ostapčuk, V. S.; et al.	9468
Kudrinskij, V. Ju.; et al.	9468	Robert, François; et al.	1374
Maitre, Jean-François; et al.	1374	Stewart, G. W.	2907

## Žukovskij, E. L.

7961

F99 *None of the above, but in this section*

Bertin, E. M. J.	(6722)	Colub, Gene H.; et al.	1368
Dahlquist, Germund; et al.	1368	Householder, A. S. (*1370, *1371)	
Eisenstat, Stanley C.; et al.	1368	Molčanov, I. M.; et al.	9502
Fan Van At	(3444)	Nikolenko, L. D.; et al.	9502
		Zelinskij, R.	2903

## 65G05 Roundoff error

Abdelmalek, Mabih M.	7918	Lepeha, N. P.	4697
Banerjee, S. N.; et al.	1418	Mitra, Samarendar K.; et al.	1418
Bohte, Zvonimir	1416	Ratschek, H.	1419
Ecker, K.	1417	Švejška, Jaromír	4698
Kulisch, U.	4696		

## 65Hxx Nonlinear algebraic or transcendental equations

## Householder, A. S. (\*1372)

H05 *Single equations*

Abramov, A. A.; et al.	6145	Lozovskij, V. S.	7978
Barth, Wilhelm	2909	Madorskij, V. M.	4629
Bel'tjukov, B. A.	1379	Miller, John J. H.	9481
Gajduk, Z. B.; et al.	7981	Ogneva, Y. A.; et al.	7969
Černyšenko, V. M.; et al.	7969	Okinševič, I. N.	2914, 7979
Chambers, L. L. G.	4625	Ostrowski, A. M.	2915
Dowell, M.; et al.	2910	Peters, G.; et al.	7980
Fedorenko, Ju. D.	7909	Šafiev, R. A.; et al.	4627
Pokanova, A. A.	9478	Sen, Syamal Kumar	9482
Gaipova, A. H.; et al.	6145	Shinohara, Yoshitane	4630
Gendler, L. M.	7973	Stewart, G. W., III	1420
Heindel, Lee E.	9480	Veršickij, V. M.; et al.	7981
Jarratt, P.; et al.	2910	Watterstrom, E.	6183
Karcevskij, M. M.	2911	Wilkinson, J. H.; et al.	7980
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## 93Bxx Controllability, observability, and system structure

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Quaffe, Howard J.	8566	Vasilenko, Ju. A.	8432
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Ravič, V. Z.	1681	Vongpanitlerd, Sumeth;	
Red'kin, N. P.	1682	et al.	8433
Rjakin, O. M.; et al.	8419	Wagner, Ferdinand	8434
Rose, Donald J.	4900	Wang, R. T. P.	6532
Rosenblum, L. Ja.	8427	de Werra, D.	1685
Sabadai, N. G.; et al.	8419	Winder, R. G.	4904
Sandberg, I. W.	9817	Yen, Jin Y.	(9827)
Sandru, Petru	4901	Zabin, I. K.; et al.	1673
Sapovalov, V. F.	6528	Zabrodski, Jan	1686
Sapoznikov, V. V.; et al.	8428	Zakrevskii, A. D.	4905
Sapoznikov, Vl. V.; et al.	8428	Zolotarev, V. D.	3128
Saraidse, G. K.	9818	Introducing young people to	
Sarnin, Ju. K.; et al.	4899	scientific work	(46554)
Scarlat, F.	(8136)	Electrical circuits	*7905, *9828
Šekunja, V. L.; et al.	6527	Method of mathematical	
Šerstnev, A. N.	3126	simulation and the theory	
Sgurev, V. S.	(6529)	of electrical circuits	
Štirladse, R. L.	4902		*7905, *9828
Šiljak, D. D.	9819	Proc. Seminar, Kiev	*7905, *9828

## A25 Sequential machines

Engeler, Erwin	(2950)	Morris, James H., Jr.	57
Ersov, A. P.	(8058)	Novoselov, V. G.	4890

## A30 Automata, general [See also G2F10, 18B20, 68A25.]

Alad'ev, V.	6533	Kutepov, V. P.; et al.	(8064)
Alešin, S. V.	1687	Kvasov, W.	3137, 3138
Anisimov, A. V.	9830	Lange, E. E.; et al.	8444
Aven, O. I.; et al.	8435	Lasarev, V. G.; et al.	8445, 9846
de Bakker, J. W.	3129	Leticzevskii, O. A.	8446
Baraško, A. E.	9831	Levin, V. I.	
Baraško, A. S.; et al.	9832		1696, 3139, 9847, 9848
Begun, G. M.; et al.	8436	Lin, Y.-P.	9849
Bellmann, E.; et al.	3130	Lobanov, L. P.; et al.	8455
Bencosová, Mária	(1688)	Makarevič, L. V.; et al.	1697
Berstein, L. S.; et al.	9852	Makarevskii, A. Ja.	1698
Bielecki, Jan	3131	Matevosjan, A. A.; et al.	1697
Bogomolov, A. M.; et al.	6535, 9832	Meitus, V. Ju.	1699
Broszowski, J. A.; et al.	3133	Mel'nikov, A. M.; et al.	9852
(Burks, Arthur W.)	*8457	Merekia Ju. V.	9853
Čavcanidze, V. V.	1689	Meyer, A. R.; et al.	6539
Čiškinecu, Virgil Emil	9834	Miscenko, A. T.	(8066-8068)
Čebotarev, A. N.	8437, 9835, 9836	Modrow, H. D.	8447
Černjaev, V. G.	3132	Miller, Horst	(70)
Černous'ko, F. L.	8438	Nepomjascii, V. A.	(6627)
Cohen, Rina S.	3134	Norris, Eugene Michael	8448
Cohen, Rina S.; et al.	3133	Oberquelle, H.; et al.	8439
Cook, Stephen A.	(1690)	Orlov, V. A.; et al.	9864
Denisenko, E. L.	9838	Ortlieb, C.-P.; et al.	8439
Dmitriev, A. N.	9839	Pill', E. I.; et al.	8445, 9846
Dögg, Klemens	3135	Potehin, A. I.	1700
Ersova, E. B.	3136	Rabinovic, E. L.	8449, 8450
Feldmann, H.; et al.	8439	Rapoport, A. N.; et al.	4906
Ferecsy, F.	8440	Samohvalov, E. A.; et al.	8455
Fricnovic, G. F.	1691	Seifulla, I. D.; et al.	9846
Fricnovic, G. F.; et al.	8444	Šigin, A. G.; et al.	(8064)
Göcszeg, F.	8441	Šinakanjan, A. S.	9837
Gerst, A. M.	(8283)	Sivak, Pavel	9856
Gluskov, V. M.	(8060), 9842	Skjarevic, A. N.	9857, 9858
Gobemais, A. Ju.; et al.	1693	Smith, Alvy Ray, III	3142
Gössel, M.; et al.	3130	Sokolov, V. B.; et al.	8435
Grigorenko, V. P.; et al.	4906	Speranskii, D. V.	9859
Grunskii, I. S.	(9537)	Spivak, M. A.	4910, 8452
Grunskii, I. S.; et al.	6535	Sukurjan, Ju. G.	1701, 8453
Jadina, V. F.	8442	Thompson, C.; et al.	6539
Jakobson, G. E.	1692	Turuta, E. N.; et al.	8445
Jakubavicius, E. A.	1694	Trafestas, S. G.	1702
Jakubavicius, E. A.; et al.	1693	Vange, H. L.	9823
Jankovskaja, A. F.; et al.	9861	Vasavskii, V. I.	8454
Klavacev, V. I.	(3169)	Vavilov, E. M.; et al.	8455
Kogan, D. I.	6538	Veselov, V. N.; et al.	1704
Krjukov, Ju. A.	1695	Vinejuk, T. K.	(9548)
Kurnitis, A.	4908, 9845	Višnevskii, A. P.	1703, 3143
		Vološin, G. Ja.	9860

Walter, Hermann	(1710)	Zakovskii, V. G.; et al.	9864
Werner, G.	(6628)	Automata theory	
Zalko, Ju. G.	8456	*8375, *9865, *9866	
Zakrevskii, A. D.; et al.	9861	Cellular automata	*8457
Zarovnyi, V. P.	9862, 8436	Essays on cellular automata	*8457
Zarovnyi, V. P.; et al.	8436	Proc. Seminar, Kiev	
Zeigler, Bernard P.	4911	*8375, *9865, *9866	
Zuraviev, G. E.; et al.	1704		

## A35 Probabilistic automata

Aladjev, V.	8458	Lorence, A.	6543, 9869, 9870
Böhme, J. F.	3144	Makarevič, L. V.	8464
Book, Ronald; et al.	9833	Metra, I. A.	8465
Buharev, R. G.	8459	Mitra, I. A.; et al.	6544
Čencov, V. M.	8460	Mudrov, V. I.; et al.	8461
Čencov, V. M.; et al.	1705	Ott, Gene; et al.	9833
Cetlin, M. L.; et al.	4912	Parzenkov, N. Ja.; et al.	1705
Even, Shimon; et al.	9832	Phan Diên Diên	1706, (1707)
Ginsburg, S. L.; et al.	4912	Rapoport, A. N.; et al.	(4906)
Greibach, Sheila; et al.	9833	Smilgaj, A.; et al.	6544
Grigorenko, V. P.; et al.	(4906)	Slepjan, V. A.	9871
Kleimenova, G. B.; et al.	8461	Turakainen, Paavo	(1708)
Kockarev, B. S.	8462, 8463	Valah, V. Ja.	3145, 8466









